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MEMORANDUM

To: Bryan Pohl, CFM, Community Development Director
Dan Riordan, Senior Planner
City of Forest Grove
1924 Council Street
Forest Grove, OR 97116-0326

From: Steve Faust, AICP
Community Development Director

Date: September 1, 2020

Project: Oak Street Land Use Refinement Plan
RE: Draft Existing Conditions Analysis

INTRODUCTION

Located in east Forest Grove, the Oak Street Area is south of Oregon Highway 47 and about one-half mile east of downtown Forest Grove (Figure 1). The area is nearly 99 gross acres in size. Oak Street bisects the area and provides access to Highway 47 to the north and Pacific Avenue to the south. A railroad corridor is present along the southern edge of the Oak Street Area. The Metro Urban Growth Boundary (UGB) runs along Oregon Highway 47 and is the northern border of the Oak Street Area. The area north of the UGB is designated rural reserve.

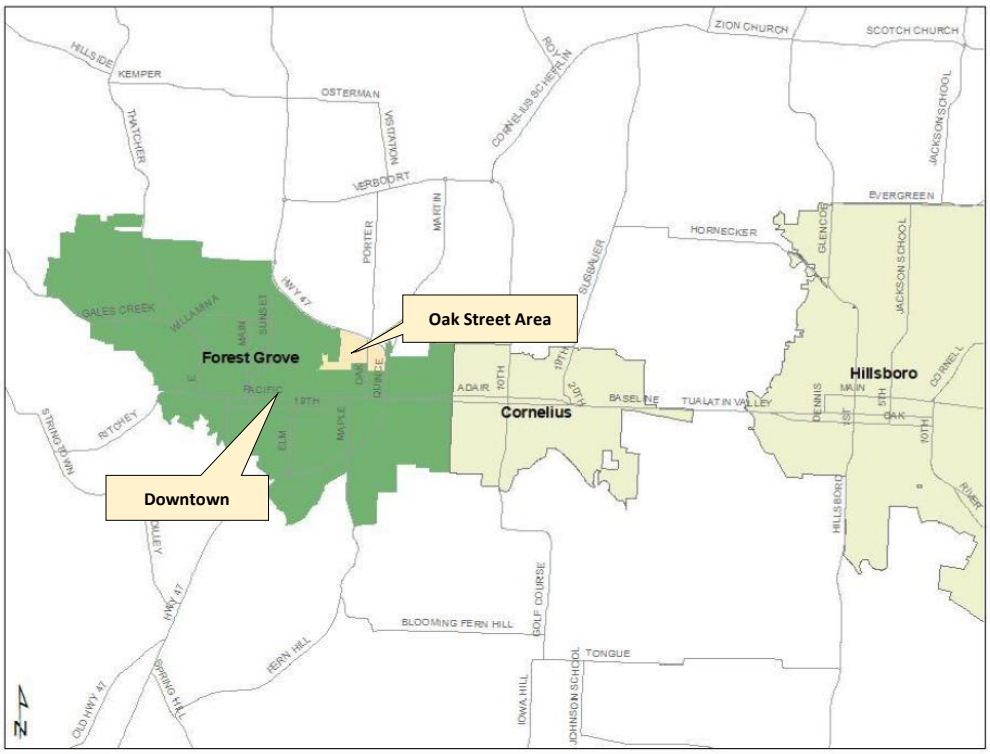


Figure 1. Oak Street Study Area, 2020

Two important planning efforts have been completed for the Oak Street Area over the past ten years, including:

- Forest Grove Transit-Oriented Development Plan and Implementation Strategy (2011)
- Washington County Industrial Site Assessment Project (2015)

The Forest Grove Transit-Oriented Development Plan and Implementation Strategy was prepared to assess the viability of land use strategies to promote high-capacity transit service along the underutilized railroad corridor adjacent to the Oak Street Area. The project focused on addressing Metro's high-capacity transit system expansion policies to better position the Forest Grove – Hillsboro high-capacity transit connection among Metro's priority corridors. The project resulted in a preferred land use concept for a pedestrian-friendly, transit-oriented, mixed-use neighborhood. The preferred land use concept is shown in Figure 2.

Figure 2. TOD Plan Final Preferred Alternative, 2011

When the Forest Grove Comprehensive Plan was updated in 2014, the Forest Grove City Council supported the concept of transit-oriented development at the Oak Street Area. However, the City Council chose not to re-designate the area from General Industrial for transit-oriented development at the time but rather reserve the area for industrial development opportunities.

In 2015, the Washington County Industrial Site Assessment project evaluated sites throughout Washington County for large lot industrial uses. The area fronting both sides of Oak Street under common ownership was part of evaluation. Given the challenges and costs of development in this area it was classified as a Tier 3 industrial site, meaning it is a high-need site requiring significant funding investments for water, sewer, and stormwater infrastructure. This is significant factor limiting site readiness and marketability.

As a first step to developing a refined land use concept for the Oak Street Area, this document provides an assessment of current and planned conditions including:

CURRENT LAND USE AND ZONING

Zoning

The Oak Street Area is largely vacant, generally flat and currently being farmed (Figure 3). The area has been designated for industrial use since at least 1987 and is currently zoned General Industrial (GI) on the City's official zoning map (Figure 4) and on the city's comprehensive plan map.

Figure 3. Oak Street Study Area Aerial, 2019

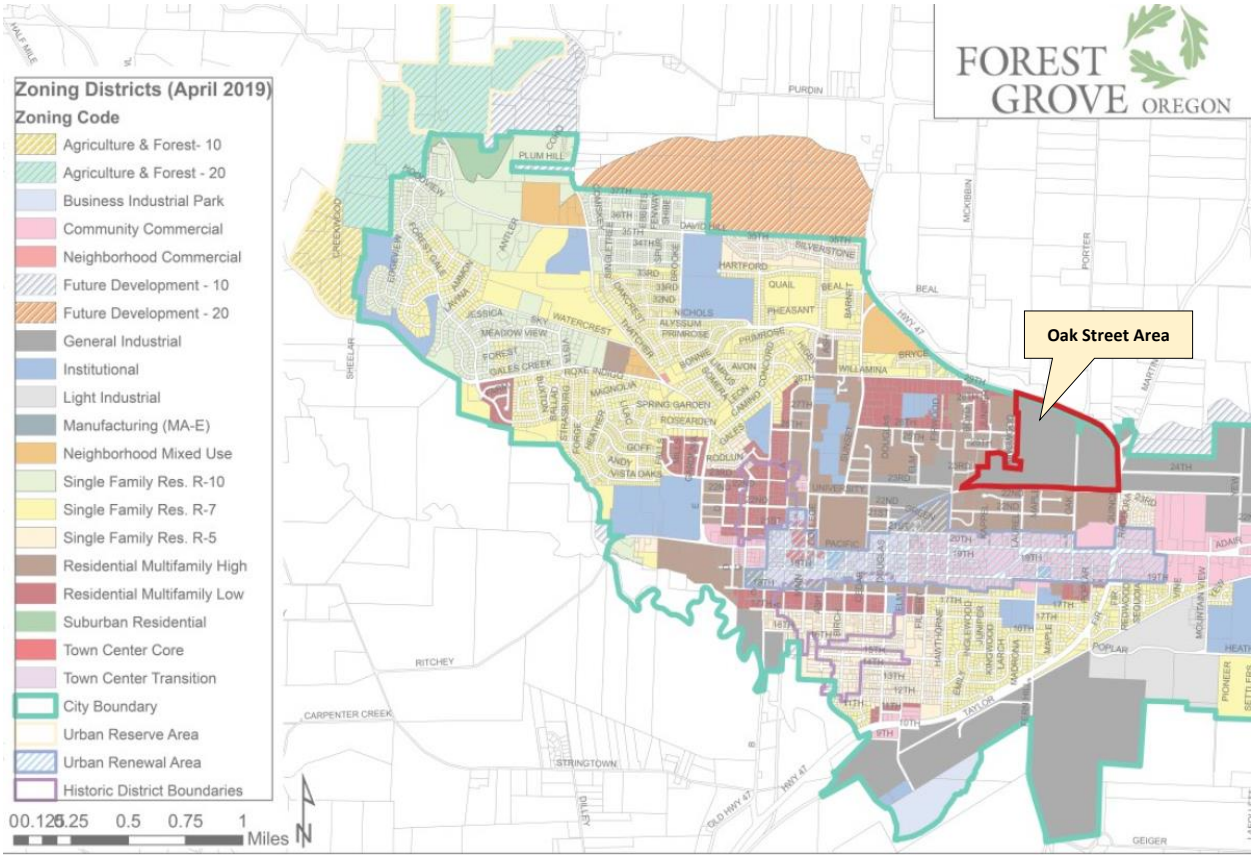


Figure 4. Forest Grove Zoning, Oak Street Study Area, 2019

The GI zone is the City's most intensive industrial designation allowing uses such as food processing, manufacturing, industrial services, call centers, warehouse and freight movement as examples. Table 1 shows the GI zone's permitted, conditional and limited uses.

Table 1. GI Zone Uses

Permitted	Conditional	Limited
Basic Utilities, industrial services, light industrial, general industrial, call centers, railroad yards, research and development, Warehouse/Freight Movement, Wholesale Sales, agriculture/horticulture, detention facilities, information	Major Utility Transmission Facilities, Emergency Services, Medical and Recreational Marijuana Processors, Waste-Related, Medical and Recreational Marijuana Producers, Mining	Household Living, Day Care, Schools, Eating and Drinking Establishments, Sales-Oriented General Retail

Property Ownership

The Oak Street Area is approximately 99 gross acres and contains 12 taxlots among six property owners (Figure 5, Table 2).

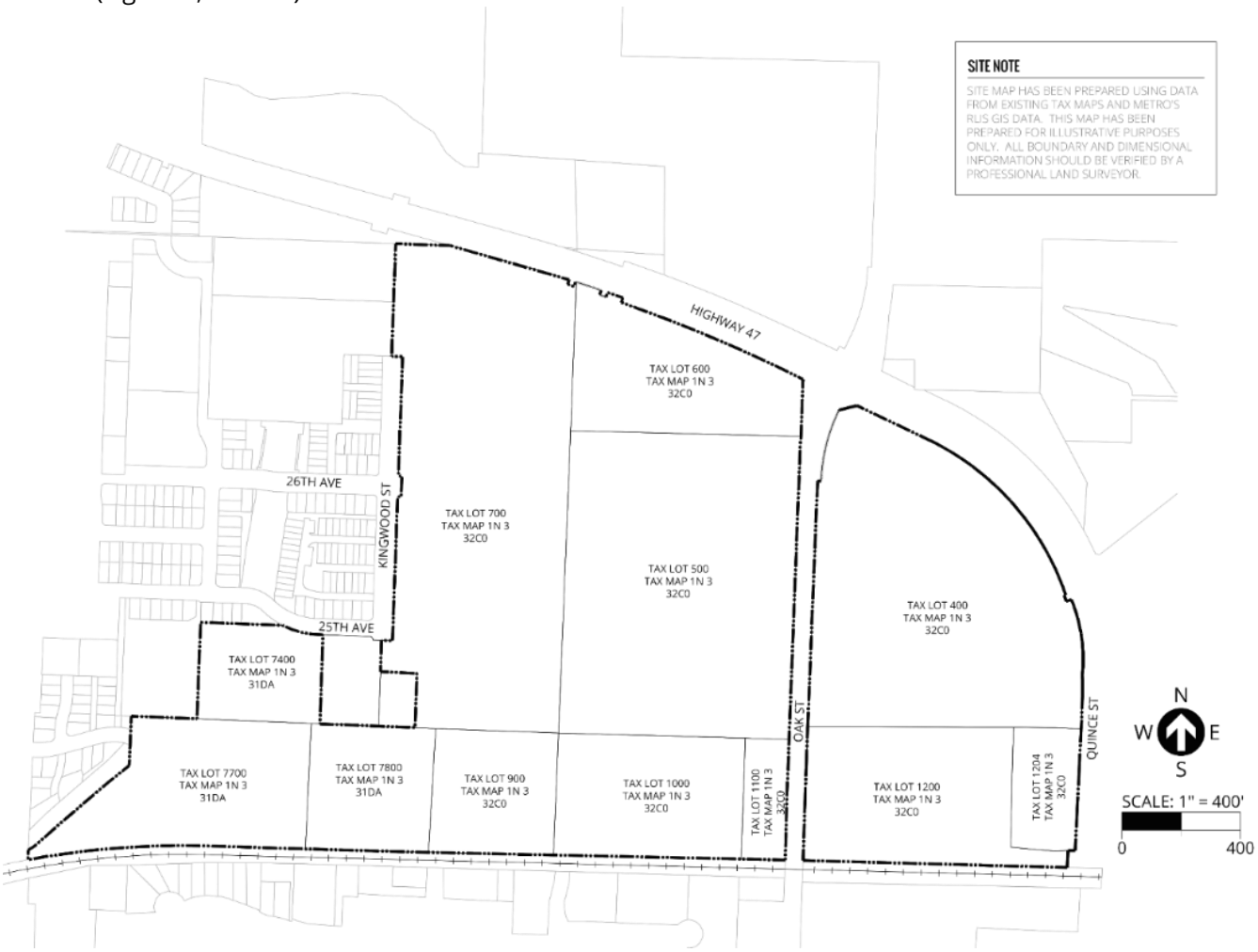


Figure 5. Oak Street Area Taxlots, 2020.

Table 2. Oak Street Area Taxlot Acreage and Ownership

Taxlot	Acreage	Ownership
1N 3 32C0 00400	17.93	Woodfold-Marco Manufacturing Inc. *74.87 acres total*
1N 3 32C0 00500	18.27	
1N 3 32C0 00600	6.31	
1N 3 32C0 00700	21.03	
1N 3 32C0 00900	3.99	
1N 3 32C0 01000	5.96	
1N 3 32C0 01100	1.38	
1N 3 32C0 01200	7.63	Grand Lodge Masons of Oregon *9.75 acres in total*
1N 3 32C0 01204	2.12	
1N 3 31DA 07800	4.05	City of Forest Grove
1N 3 31DA 07700	7.14	United States of America
1N 3 31DA 07400	3.05	Anne L. Matiaco Living Trust
Total Area	**98.86**	Sellwood Enterprises Inc.

Adjacent Neighborhoods

The area is adjacent to an existing higher density residential neighborhood to the west (Casey Meadows and Hawthorne Meadows), as shown in Figure 3. Casey Meadows includes detached and attached single family units. The Juniper Gardens apartment complex owned by Bienestar CDC provides housing for workers in the agricultural sector. A 20-unit townhouse project is proposed adjacent to the Oak Street at the southern terminus of Kingwood Street. The zoning of the townhouse parcel, was recently changed from General Industrial to Residential Multifamily High (RMH) density, as shown in Figure 4. The RMH zone has a target density of 20 units per net acre.

The area south of the railroad corridor is a long-established neighborhood platted from the 1950s to 1970s. This area includes a mixture of single-family homes and several apartment buildings. The Jennings McCall assisted living facility is also located south of the Oak Street Area.

Utility Easements

Two Bonneville Power Administration easements run through the site for power lines that feed the Forest Grove electrical substation (Figure 6). The Forest Grove Light and Power Department's pole yard is located adjacent to the substation. The Tualatin Valley Irrigation District also has an easement on the site (Figure 7). The BPA and irrigation easements together create a substantial barrier to development.

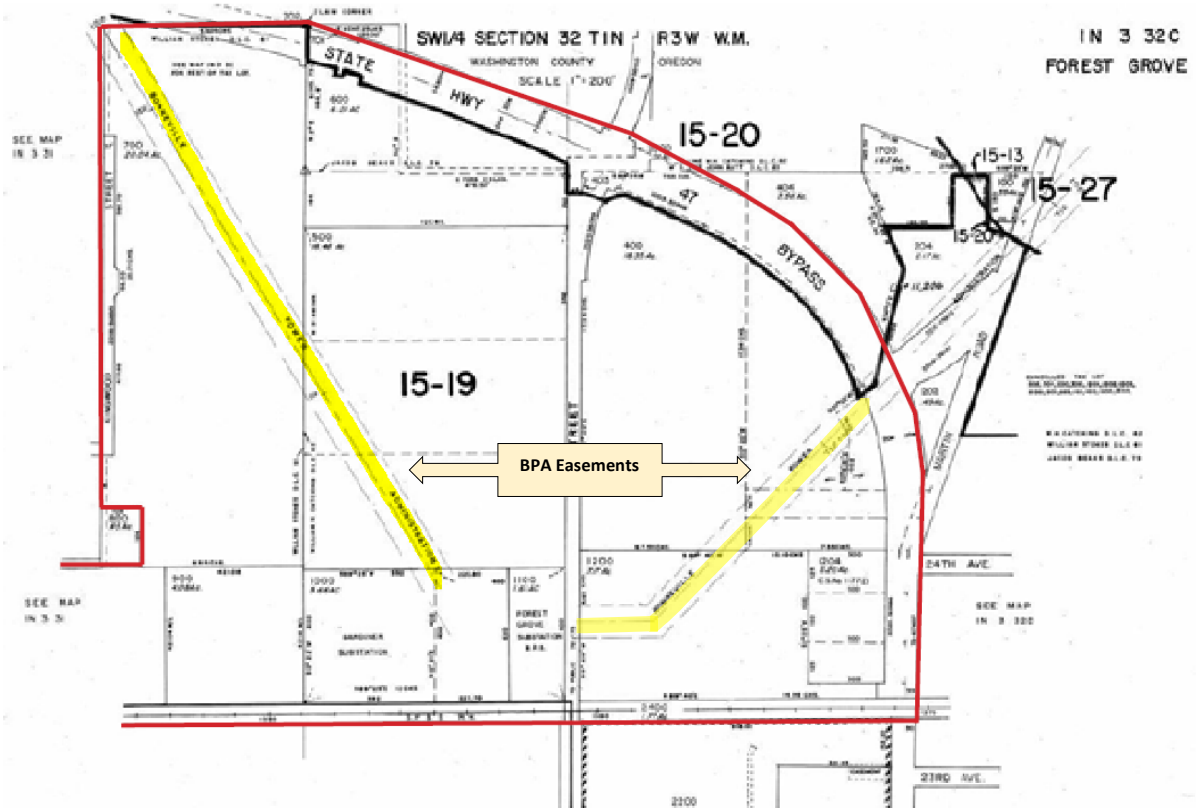


Figure 6. BPA Easements in the Study Area

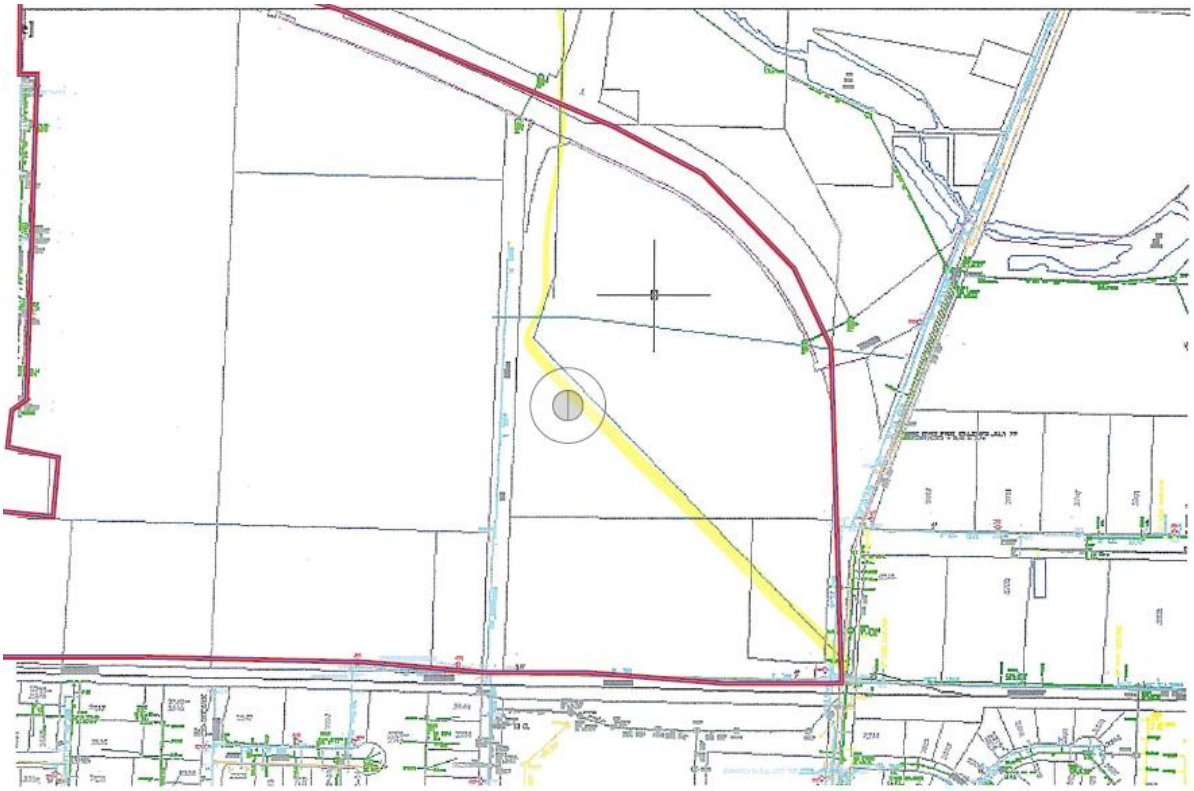


Figure 7. Tualatin Valley Irrigation District Easement in the Study Area

Natural Features

Natural features occurring within the study area include a wetland (Figure 8). Buffers and riparian habitat are shown in Figure 9. These run north-south along the western edge of the study area.

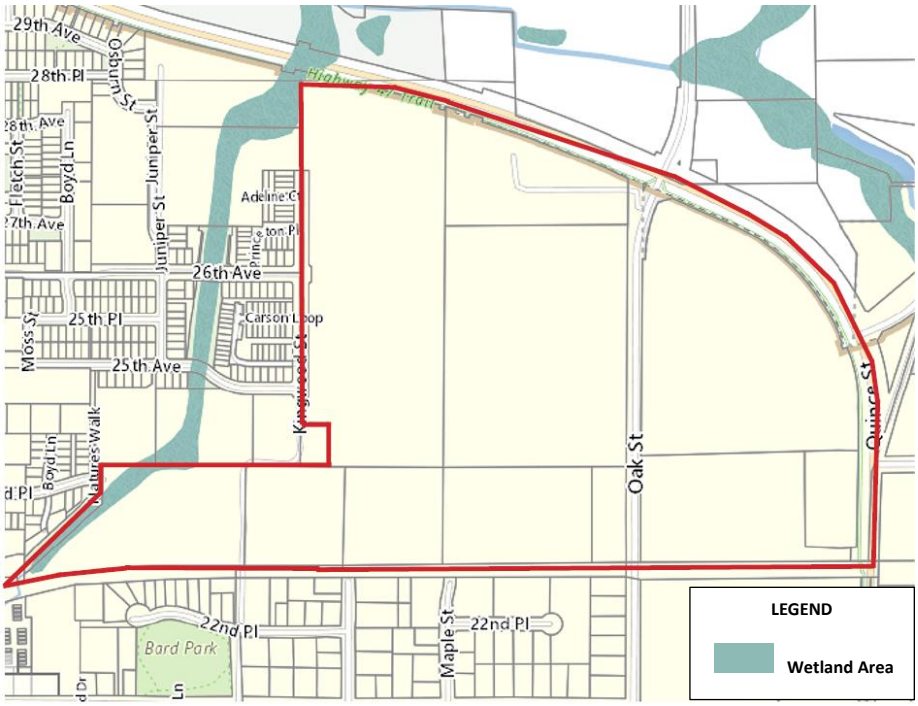


Figure 8. Metro Wetland Map, 2020

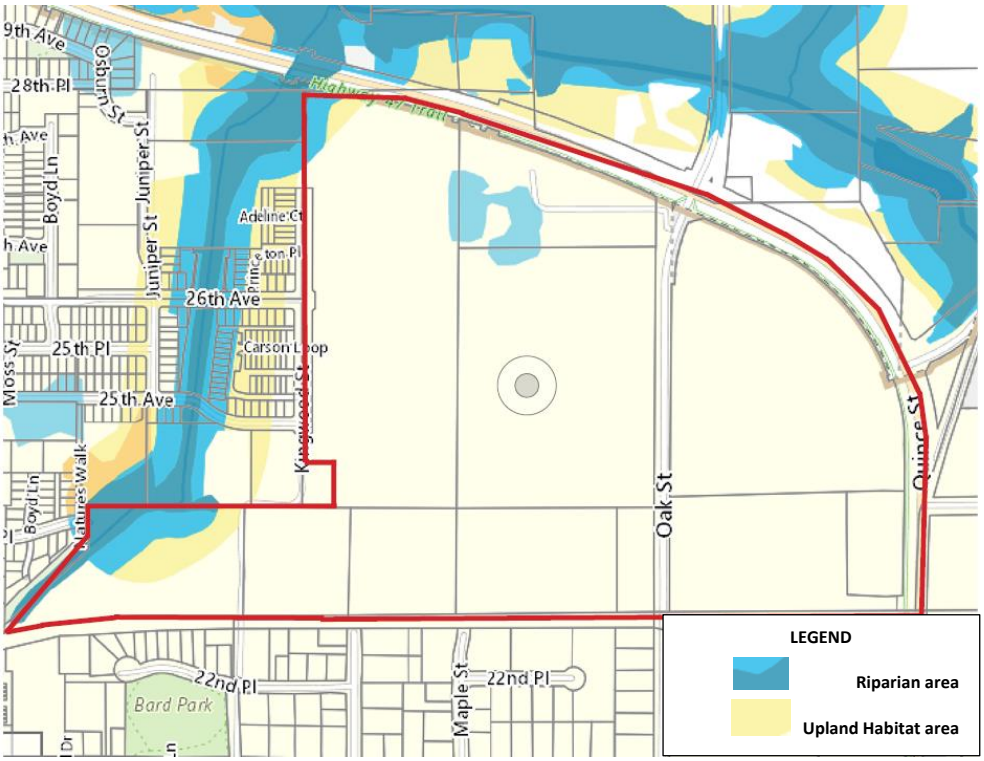


Figure 9. Metro Riparian and Upland Habitat Map, 2020

CURRENT INFRASTRUCTURE

The 2015 Washington County Industrial Site Assessment classifies the Oak Street Area as a Tier 3 industrial site, meaning it is a high-need site requiring significant funding investments for water, sewer and stormwater infrastructure. The following is a summary of conditions of specific infrastructure and facility types and Figures 10-14 that illustrate existing sanitary sewer, water and stormwater infrastructure conditions and future improvements.

Sanitary Sewer

The City of Forest Grove and Clean Water Services (CWS) share responsibility for operating and maintaining the sanitary sewer system. The City is responsible for all collection lines smaller than 24" in diameter as well as all manholes. CWS is responsible for the large trunk lines, lift stations, and the Fernhill Treatment Facility.

The 2007 *Forest Grove Wastewater System Master Plan* identifies the Oak Street Area as part of the North East service basin and should be conveniently serviced by the Council Creek Trunk. Analysis will look at the hydraulic needs of this area and the ability to reach the Council Creek Trunk which lies on the north side of the creek. Multiple lines will be added and connected to the Council Creek trunk. Differing zonings will vary the flows, but expected flows will range from 200 to 1300 gpm requiring between 8–inch and 18–inch-diameter pipes. There are three stub outs from the Council Creek trunk constructed specifically to service this area with one 12" trunk extension and two 8" trunk extensions.

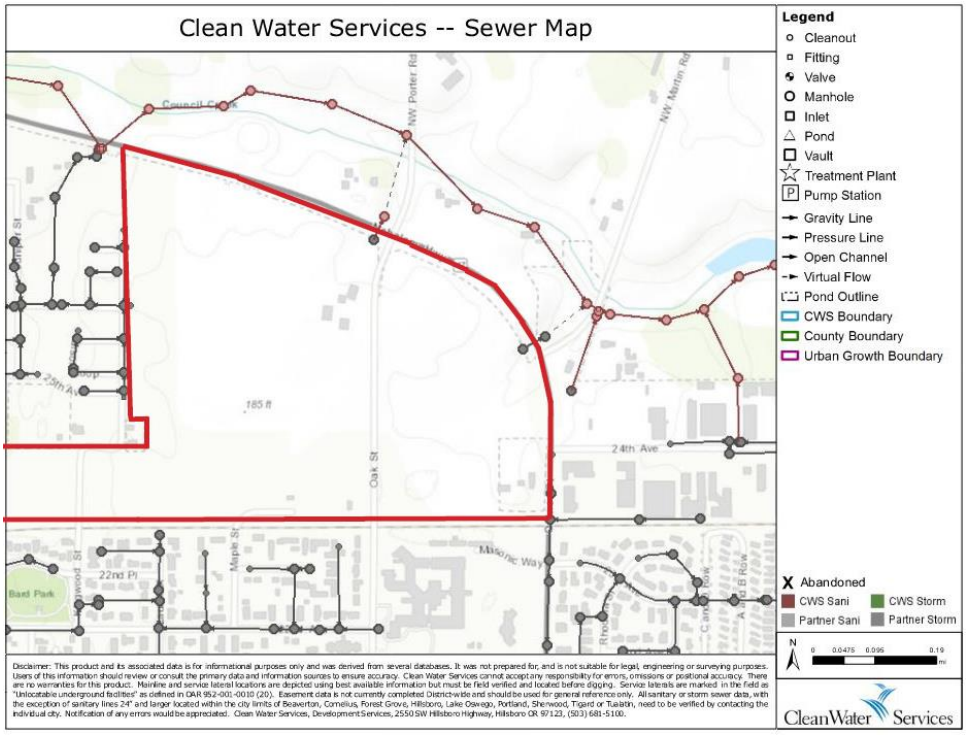


Figure 10. Existing Sanitary Sewer Infrastructure, 2007

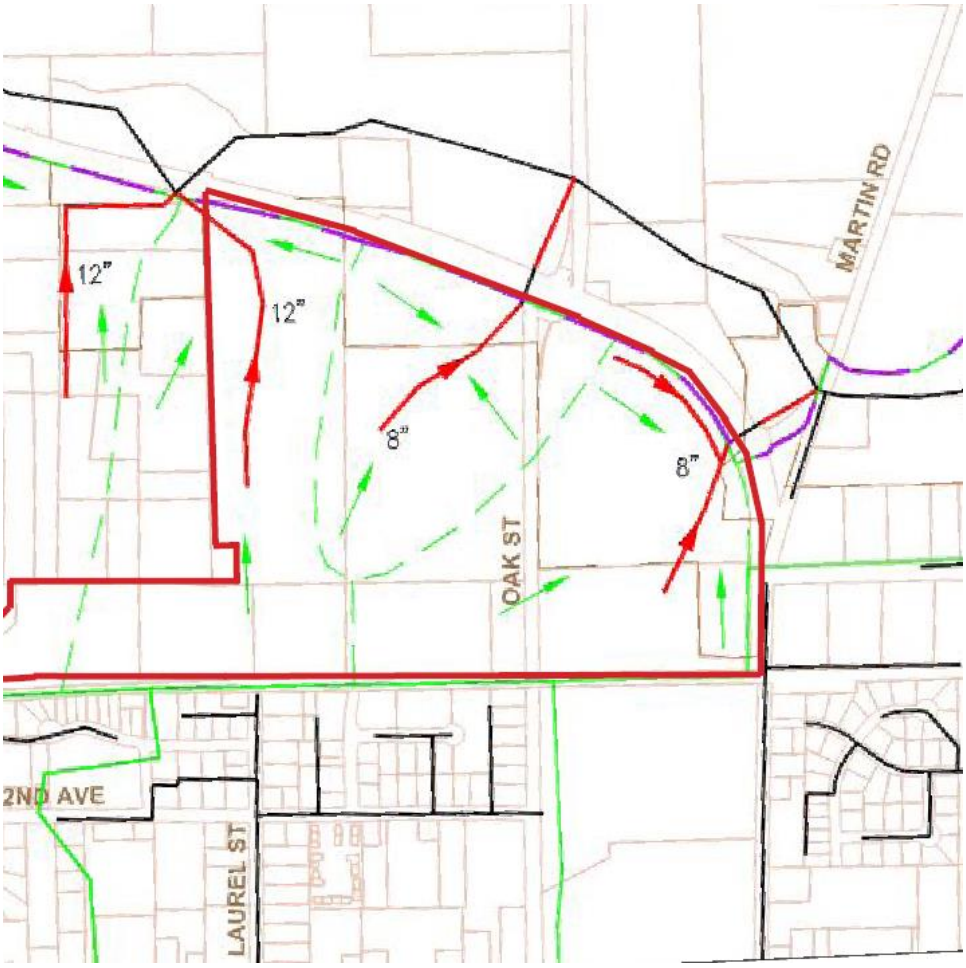


Figure 11. Proposed Council Creek Trunk Extensions for the Oak Street Area

Note: This map is intended to provide direction to the developers as planning and construction of new development takes place. The pipe sizes provided have been developed based on land zoning and the topography available at these sites and assumed flow capacity of each segment has been provided.

Water

The City of Forest Grove is responsible for operating and maintaining the city's water system. The City operates three water pumping stations and a water treatment facility. The City is part of the Joint Water commission which provides the transmission, treatment and storage of water.

The 2010 *Forest Grove Water Master Plan Update* included redevelopment concepts for six areas around the town center, Pacific Avenue and Oak Street in the land absorption analysis. The redevelopment will be primarily for residential use, increasing the residential density and population within the City's current City limits. The earliest redevelopment in these areas is expected to occur within 5 to 10 years in the Town Center (2015-2020). Additional redevelopment will occur throughout the planning period, with a peak in redevelopment occurring in the 15-25-year time frame (2025-2035). As shown in Figure 13, new 8-inch, 10-inch, and 12-inch pipes are proposed for the Oak Street Area.

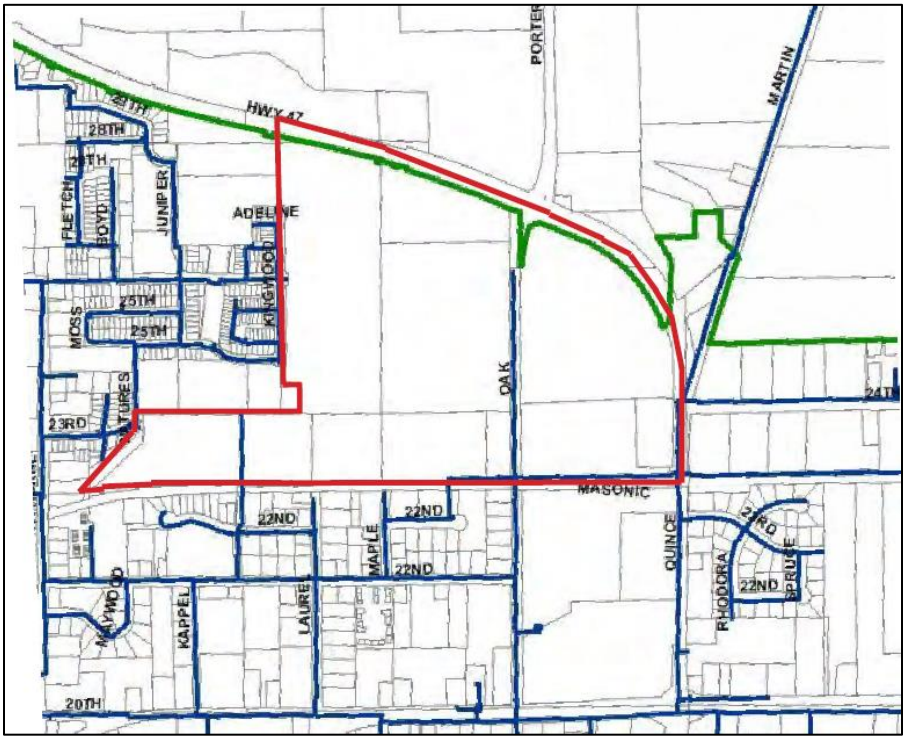
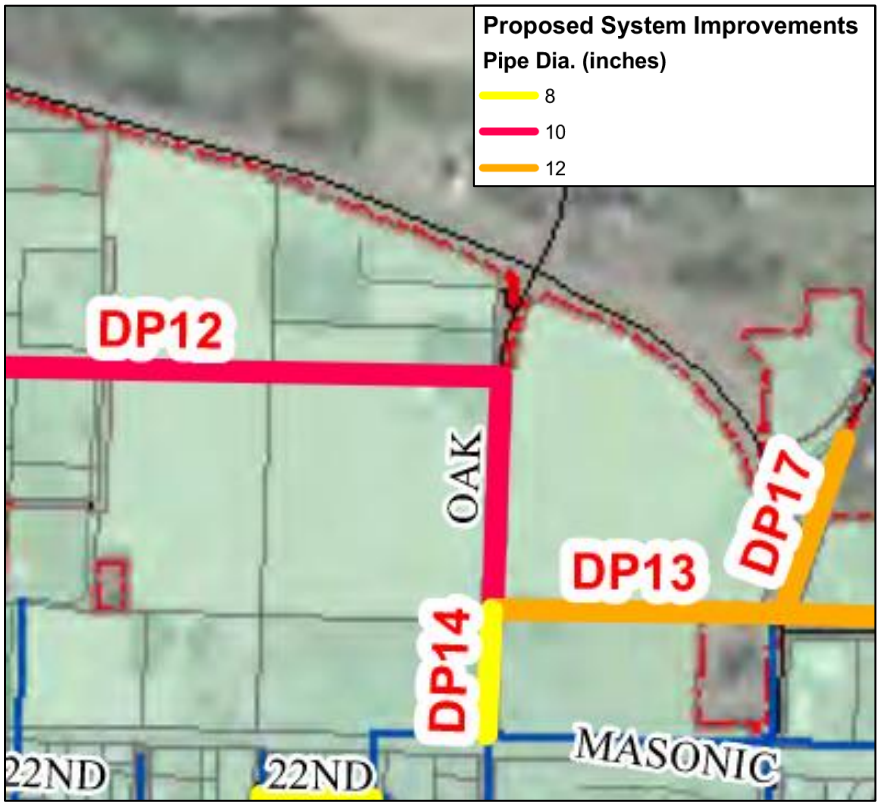


Figure 12. Existing Water Infrastructure, 2007

Figure 13. Proposed Water Infrastructure Improvements



Stormwater

The City of Forest Grove maintains and repairs the City's stormwater facilities including catch basins, manholes and water quality facilities. The 2007 *Forest Grove Storm Drainage Master Plan* guides future system improvements.

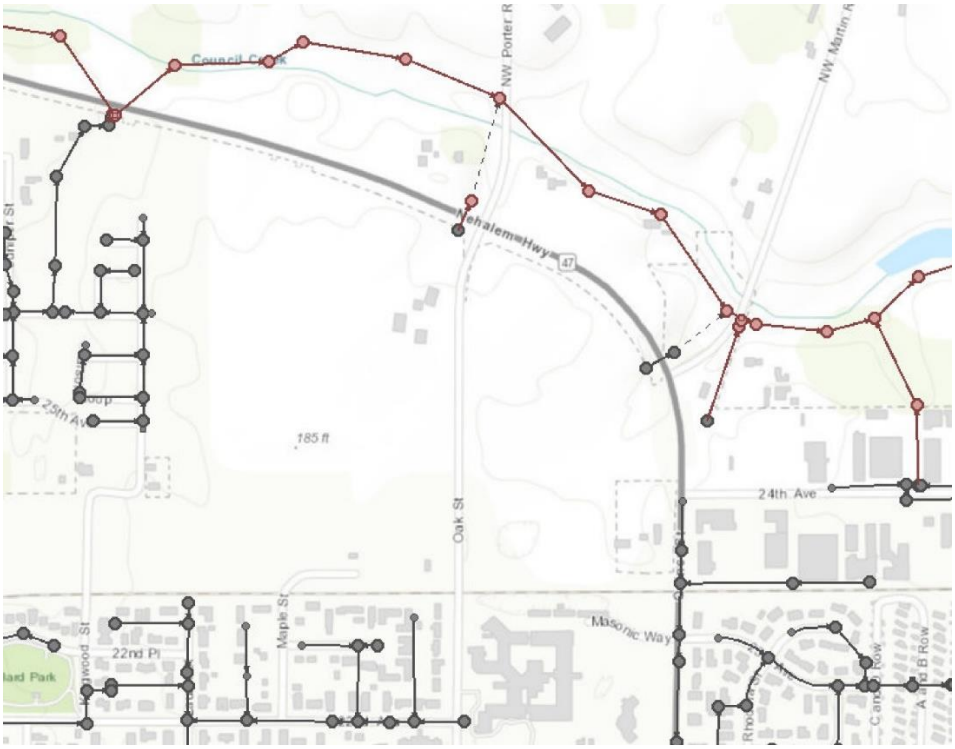


Figure 14. Existing Stormwater Infrastructure, 2007

MARKET CONDITIONS

This section discusses background analysis of market factors that may impact future development in the Oak Street Area. This project considers a range of potential future land uses in the area, including residential, commercial retail or office, and industrial uses. The future uses might be geographically separated, or in the form of mixed-use development.

Among other sources, this analysis relies on recent reports prepared by the City to study future land needs. Analysis of housing conditions are informed by the recently completed Housing Needs Analysis (HNA) for Forest Grove (2019). Analysis of commercial and industrial real estate uses are informed by the recently updated Economic Opportunities Analysis (EOA, 2019), and Economic Development Strategic Plan.

Most of the market data presented here do not yet reflect any serious impacts from the 2020 economic slow-down due to COVID. As of the time of this report, it is still difficult to forecast the long-term impact of these events if any on the commercial real estate market. Given this uncertainty, this report assumes some sort of "return to normal" or reversion to the mean in the coming year to two years, and not a drastic long-term downturn.

Residential Market Conditions

Housing Supply

The City has an estimated 8,841 housing units as of the most recent Census data (2018 ACS). 60% of units are estimated to be single-family detached homes. Roughly 5% are townhomes, 6% are mobile homes, 11% are duplex through 4-plex units, and 18.5% are multi-family units. The housing stock grew by nearly 1,000 units since 2010, or 12.5%.

The HNA estimates that 8% of the City's housing inventory is government-assisted affordable housing, or roughly 680 units. The community also has a significant share of group housing for students at Pacific University, as well as off-campus rental options that cater to this demographic.

The area directly to the west of the study area has been developing in recent years with hundreds of middle-density housing units, including townhomes, duplexes and small-lot single family homes.

Housing Demand

The HNA finds that over a 20-year period, projected growth in Forest Grove will support the need for roughly 3,425 new units or over 170 new units per year (not including group quarters). This is robust housing growth of nearly 40% over the current stock. Over 60% of this future demand will continue to be for single family detached housing, including mobile homes. The remainder will be for different types of attached housing. The housing forecast also anticipates there to be a need for more affordable housing at price points that are attainable to households earning less than 80% of the area's median income level. This would support greater demand for government-assisted housing options, as well market-rate rentals and home ownership options, such as duplexes, townhomes, cottage homes, and manufactured dwellings.[1] With the recent passage of HB 2001, Forest Grove,

[1] The housing mix that addresses future demand consists of approximately: 1,988 single-family detached homes, 638 townhomes/duplexes, 702 multifamily apartment/condo units and 97 manufactured housing units.

along with other Metro cities, will be required to allow these middle housing types in all residential zones by June 2021.

In assessing the remaining buildable land in the Forest Grove Urban Growth Boundary (UGB), the HNA finds that the remaining capacity of low-density residential lands is fairly-evenly matched with the demand for low-density housing types. The HNA finds that the remaining capacity of high-density residential lands exceeds the 20-year demand forecast. It is estimated that among a number of single-family home subdivisions, there is a remaining supply of buildable lots for roughly 18 months, based on past trends.

Table 3: Reconciliation of Housing Capacity and Projected 20-Year Housing Demand

	Housing Capacity (Supply)	Housing Demand	Remaining Capacity
Low Density	2,732	2,724	8
High Density*	2,150	958	1,192
Total	**4,882**	**3,682**	**1,200**

* includes townhomes, apartments and group quarters.

Source: Forest Grove Housing Needs Analysis, 2019

Home Prices and Rents

Housing prices and rents in Forest Grove have grown steadily over the past ten years. The community is an attractive residential community for the local labor force as well as many who commute to other parts of Washington County and greater Metro area. However, Forest Grove has relatively low household income levels, and is experiencing widespread housing cost burden issues. When considering both renters and homeowners, 26% of all residents in Forest Grove were severely housing cost burdened in 2017.

The median home price in the city has grown from $220,000 in 2010 to $380,000 in 2020, an increase of 73% in ten years. This is growth of 5.6% per year, which outpaced inflation. Just under 400 homes (new and existing) have been sold in the city in the last 12 months from July. Over 87% of sales were single-family homes, 4% were mobile or manufactured homes, and 9% were attached or condo units. As one would expect, newly-built homes tend to sell for higher prices than older housing. In the last year, newly built homes sold for a median price of $415,000, or $220/s.f.

Apartment pricing has also grown at a slower rate over the last ten years. Since 2010, average the average-rent-per-square-foot for rental units in Forest Grove grew from $1.10/s.f. to $1.49/s.f. This is growth of 36% or 3% per year. This rate of growth is closer to the general inflation rate, but still exceeds it somewhat. The average monthly rent of a rental unit in Forest Grove is $1,160 per month.

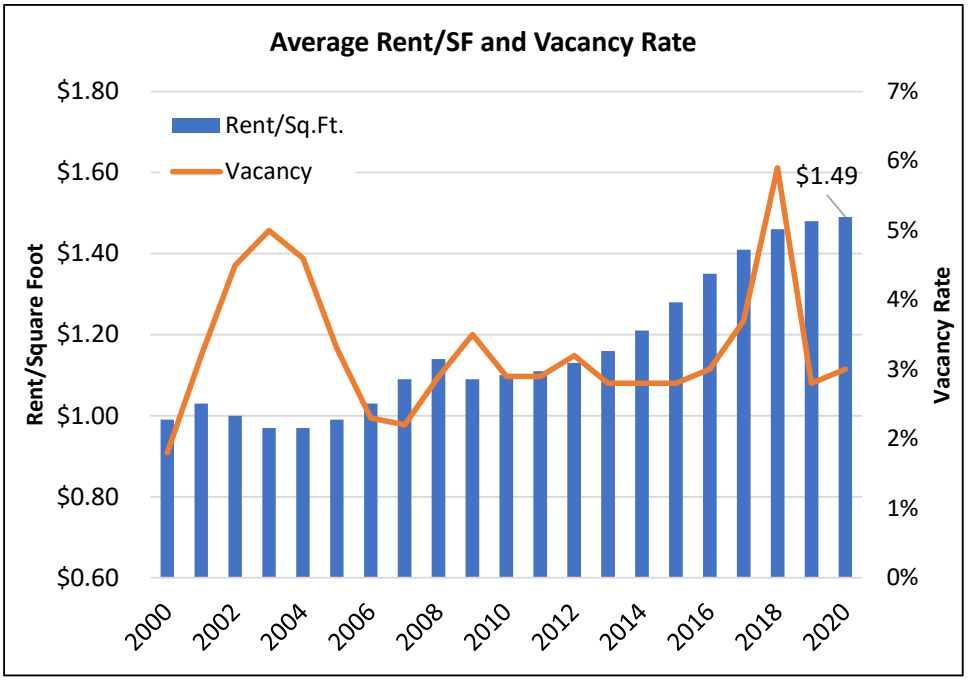


Figure 15. Multi-Family Rental Housing, Average Rent and Vacancy, Forest Grove, 2020
Source: CoStar, Johnson Economics

Vacancy for rental apartments has generally been very low for more than a decade. It is currently estimated at 3%. Generally, the industry considers a healthy vacancy rate to be 5%, allowing for some movement and unit choice among renters. The low vacancy rate indicates a tight rental market in Forest Grove.

Retail Market Conditions

Commercial Retail Inventory

The City of Forest Grove has multiple commercial zones allowing for retail uses. Most of these zones are located along Pacific Avenue which runs from the boundary with Cornelius to the east, into the historic town center to west. The town center is home to many smaller boutique retail and dining businesses, while the more auto-oriented commercial corridor to the east is home to more shopping centers and drive-through businesses. The recently updated EOA found little vacant commercial land remaining along the Pacific Avenue corridor. There may be some redevelopment opportunities in the future, but current land values and lease rates are likely to keep this activity at a modest level.

There are also Neighborhood Mixed-Use (NMU) zones that are meant to accommodate some commercial uses. There are some large remaining land parcels with NMU zoning located on the north and northwest edges of the city, on Highway 47, and on NW Thatcher Road. These parcels total roughly 48 acres.

The closest commercial agglomeration from the study area is along Pacific Avenue roughly a third of a mile to the south. Located less than a quarter mile to the south of the study area, the McMenamins Grand Lodge campus is one of the largest commercial attractions in Forest Grove offering hotel, dining, meeting rooms, events and more in one location.

Retail Demand

A recent study of grocery store demand in Forest Grove provides updated estimates of retail demand by category. The community's robust growth is expected to support additional retail space into the future including the study area. Based on forecasted population and household growth, in the city's market area can support a projected additional 450,000 sq. ft. of new retail space over 20 years, or roughly 41 acres of commercial land. The greatest amount of new future spending is expected for general merchandise stores, grocery and other food and beverage stores, home stores, and dining and drinking establishments.

Retail Lease Rates

Retail lease rates in Forest Grove have been variable over the past 15 years and remain fairly modest. After falling in the recession, lease rates have recovered to roughly the previous level. Lease rates are supportive of small businesses and commercial strip retail in good locations. At the same time, vacancy has falling significantly since the recession, with little commercial space available.

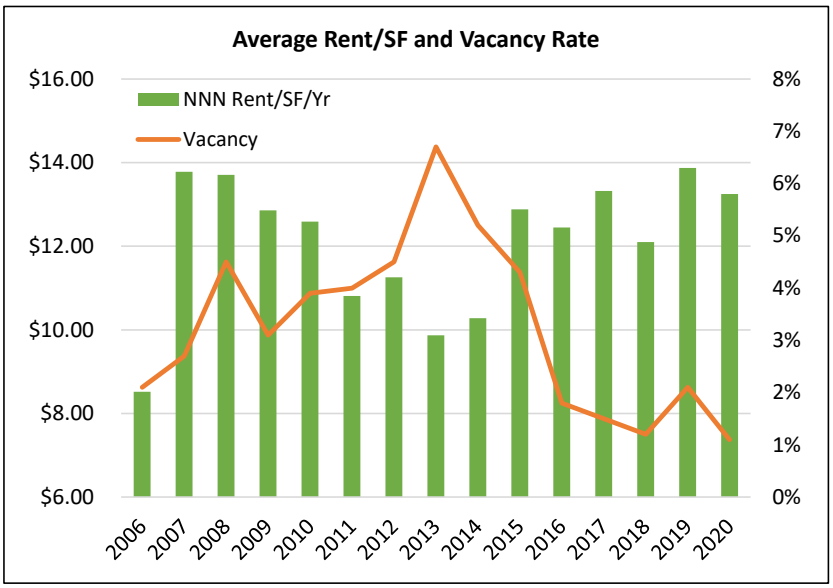


Figure 16. Retail Real Estate, Average Rent and Vacancy, Forest Grove, 2020
Source: CoStar, Johnson Economics

Office Market Conditions

Commercial Office Inventory

The City of Forest Grove office supply is located both in the city's commercial and industrial zones depending on the nature of the office space. As with retail, this places many offices in and near the historic town center, and some small offices and commercial services along Pacific Avenue. There are also some office spaces located in industrial zones, though some of these are hybrid spaces that also feature some aspect of industrial activity. The EOA found little vacant commercial land remaining along the Pacific Avenue corridor. There may be some redevelopment opportunities in the future, but current land values and lease rates are likely to keep this activity at a modest level.

As with retail, there are also Neighborhood Mixed-Use (NMU) zones that are meant to accommodate some commercial uses. There are some large remaining land parcels with NMU zoning located on

the north and northwest edges of the city, on Highway 47, and on NW Thatcher Road. These parcels total roughly 48 acres.

Commercial Office Demand

The 2019 EOA found a demand for roughly 152 acres of commercial land, divided among commercial, mixed-use and institutional uses. Among of the greatest sources of this demand over the next 20 years are projected to be the professional services, education and health care sectors. As noted above, the EOA found only 55 acres of vacant or "redevelopable" commercial land in the city, meaning that there was a forecasted deficit of land for these uses over the 20-year period.

Office Lease Rates

Average office lease rates in Forest Grove remained fairly stable through the recession but have seen an increase in the past few years. Vacancy has also fallen in recent years to well below 5% vacancy. Office park property owners often factor in an assumed average vacancy of 10%, so the current estimated vacancy of roughly 2% (CoStar) represents a very low level. Rising lease rates and low vacancy are supportive of new office support in the study area.

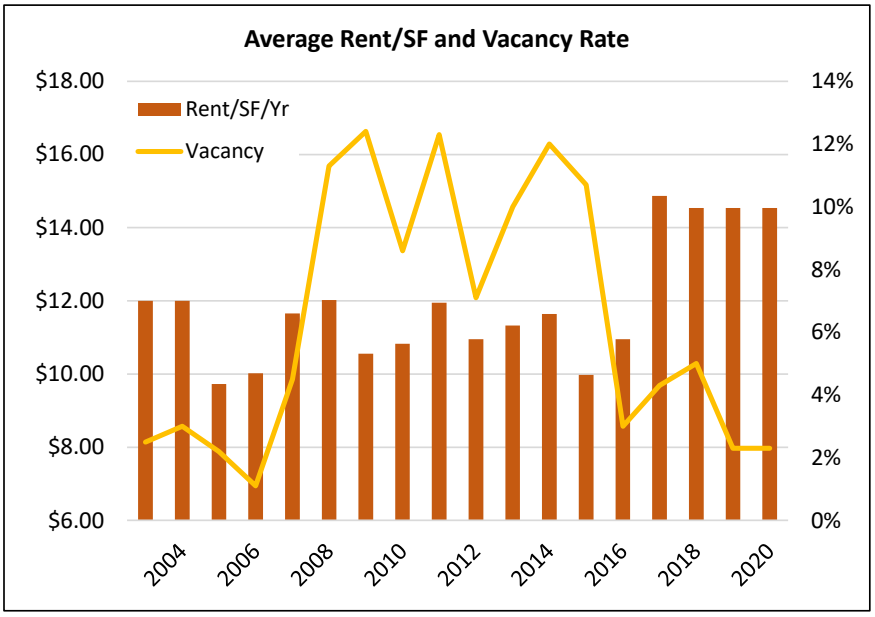


Figure 17. Commercial Office Real Estate, Average Rent and Vacancy, Forest Grove, 2020
Source: CoStar, Johnson Economics

Industrial Market Conditions

Industrial Space Inventory

The City of Forest Grove has a long history of successful industrial users in the community, including food processors, manufacturers, and high-tech firms. The city's industrial zones are located on the eastern side of the city to the north and south of the Pacific Ave corridor. The study area is currently zoned for general industrial use and is part of the northern industrial area. The lands to the east of the study area, across the Nehalem Highway are largely built out with industrial uses. On the south side of the city, industrial lands are partially built out with traditional industrial users and some high-tech manufacturing space.

The EOA found significant remaining industrial land in the city limits, with the study area making up a sizable portion of this. Overall, nearly 240 acres of vacant or redevelopable industrial land was identified. Much of this land is not yet shovel-ready, meaning that while it is technically available, obstacles remain to making it available to any large employers who would like to use it in the near-term.

Industrial Demand

The 2019 EOA found a demand for roughly 48 acres of industrial land over the 20-year forecast period. The greatest sources of this demand are projected to be the construction and manufacturing sectors. This does not take into account the potential of landing one or more large employers to the area. These types of recruitments are difficult to predict and factor into the EOA analysis. If such an employer was attracted, it could represent a large demand of industrial land in addition to that identified in the report.

As noted above, the EOA found over 200 acres of vacant or "redevelopable" industrial land in the city. This is well above the forecast of demand for industrial land.

Industrial Lease Rates:

Industrial space tends to achieve the lowest lease rates per square foot of any real estate category. In Forest Grove, industrial lease rates have remained very stable over the past 15 years, dipping only during the recession. However, the do not remain significantly different than they were nearly a decade ago. At the same time, vacancy of available space has dropped to nearly 0% in those properties tracked by CoStar. It is unlikely that actual community-wide vacancy is 0% but is likely very low. The impact of this low vacancy should begin to be seen in rising lease rates (assuming a return to pre-COVID trend.)

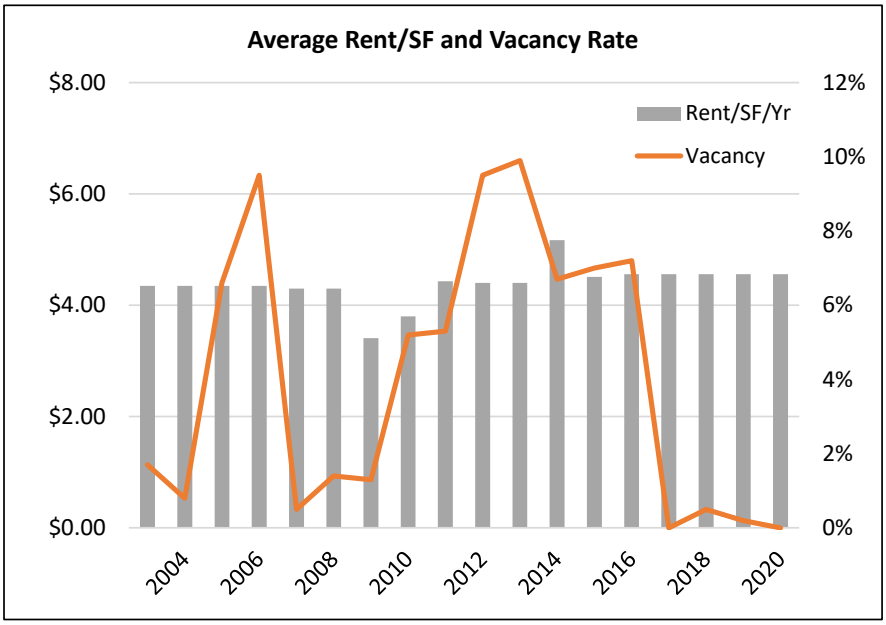


Figure 18. Industrial Real Estate, Average Rent and Vacancy, Forest Grove, 2020
Source: CoStar, Johnson Economics

Target Industries

The EOA assesses local economic and employment trends and identified key target industries for Forest Grove. Forest Grove currently enjoys a greater share of employment in manufacturing and education and health, in comparison to the county, metro, or national level. The share of employment in these sectors is 2.5 times higher than the national average. Forest Grove also offers a higher share of jobs in leisure and hospitality. These are the industries for which the greatest growth is forecasted over the next 20 years, followed by the retail trade and construction sectors.

Target Industries: The EOA identifies promising industries to target for economic development in the coming decades. These include:

- **Agriculture/Value Added Food Products:** The proximity of Forest Grove to high quality farmland and the City's quality water supply has created opportunities for growth in food processing and specialty agriculture products. The city already has an existing economic base in food processing, nursery & tree products, and specialty beverages.
- **Tourism and Winery Development:** The City of Forest Grove has undertaken efforts to "brand" the city, giving it a regional identity. The concept of Forest Grove as a "Gateway to Wine Country" is a popular option, facilitated both by Forest Grove's proximity to the metro area and by abundant outdoor recreation activities.
- **Education:** In addition to an attractive sense of community, Forest Grove's livability is accentuated by its quality public school system. Increasingly considered a livable bedroom community, Pacific University and the public schools form one of the largest employment sectors in Forest Grove.
- **Retirement Services:** Largely the result of the general livability of the area and small-town community atmosphere, Forest Grove has an existing retirement aged population base far exceeding most jurisdictions in Washington County. Forest Grove's composition of employment in Nursing and Residential Care Facilities is nearly three times the national average.
- **High Tech:** Forest Grove's livability in addition to utility rates makes it an attractive location to capture economic spillover from Hillsboro's on-going development and economic growth in semiconductor and solar component manufacturing.

Each of the industries presented here are a compelling target for future employment and economic development activity, either because Forest Grove already enjoys a competitive advantage, or because the quality of jobs (as in high tech) make it an attractive target for continued focus.

Table 4: Target Industries Strengths and Challenges

INDUSTRY	STRENGTHS	CHALLENGES
Agriculture/Value Added Food Products	▪ Proximity to high-quality farmland and water supply. ▪ Existing food processing industry with workforce expertise. ▪ Has the ability to support a growing tourism industry. ▪ Geographic access to export markets. ▪ Certainty of long-term agricultural land supply with designation of rural reserves near Forest Grove.	▪ Over time, the continued urbanization of Washington County will reduce agricultural growth on the margin. ▪ Declining food prices and rising input costs. ▪ Potential restrictions on immigrant labor workforce.
Tourism and Winery Development	▪ Geographic position near the Chehalem Mountain and Ribbon Ridge American Viticulture Areas, and outdoor recreation opportunities. ▪ An attractive downtown core, including Pacific University. ▪ Regionally drawing amenities such as Grand Lodge, Fern Hill Wetlands, Scoggins Valley Park/Henry Hagg Lake. ▪ Cluster development would provide tertiary benefits to other industries. ▪ Local wineries are currently small in scale, leaving high growth potential.	▪ Limited connectedness between winery locations and downtown. ▪ Need to continue to build awareness as a wine country gateway. ▪ Regional competitiveness with other Willamette Valley wine districts. ▪ Wineries have noted that the permitting process in Washington County is difficult and convoluted, a competitive disadvantage relative to other wine counties.
Education	▪ Population and enrollment growth on the horizon. ▪ Pacific University is an attractive asset to the Downtown Core. ▪ Potential to foster greater connections and partnerships with the university.	▪ Perceptions within the community of limited partnerships between Pacific University and Forest Grove at large. ▪ Volatility in public school funding.
Retirement Services	▪ Livability and leisure activities ▪ Favorable demographics ▪ National growth in retirement segments, met by insufficient facilities	▪ Few
High Tech	▪ Proximity to Oregon's largest High-Tech manufacturing center. ▪ Existing major High-Tech employers in Forest Grove.	▪ Limited supply of industrial land, specifically shovel-ready large parcels. ▪ Forest Grove's workforce composition does not match the needs of High-Tech firms. ▪ Uncertainty with respect to the future cost of utilities have limited industrial marketability of Forest Grove. ▪ Lack of direct transportation connections to the north Hillsboro employment area.

Source: Forest Grove Economic Opportunities Analysis, Johnson Economics

Strengths and Challenges: Forest Grove, and the Oak Street study area specifically, have relative advantages and disadvantages to attracting different types of employers in the future. The community has shown itself to be a strong location for health care, retirement, and education services. These sectors have established clusters of employers and job base that are attractive to support firms and new competitors. Industry clustering brings multiple firms of the same type to an area, where they enjoy shared access to a trained labor pool, suppliers and support firms, and other networking effects. Clustering can cause strong competitors to want to share a market (i.e. sportswear firms in the Portland Metro.)

Forest Grove's location at the edge of the Metro area, with poor direct highway access is not a detriment to these sectors, because this atmosphere is attractive to retirees, college students, and general commuters and their families who use these services. Likewise, the area is attractive for tourism, including vineyard and agri-tourism, due to its bucolic location and nearby farms and nature. McMenamins Edgefield is a regional attractor for tourists that provides secondary impacts to others in the industry.

The city's location is an advantage for some industrial users with a link to nearby natural resources, such as food processing and timber-related businesses. These types of industries have a long-established history in Forest Grove. Other industrial users, such as large high-tech users, may face some challenges from this location. The location at the edge of the Metro area makes for a difficult commute for a firm with many well-paid employees. While many prospective employees would like to live in Forest Grove, if a firm wants to compete in the Metro-wide talent pool of skilled workers, this commute may be a hard sell. A related challenge is the lack of direct access to Highway 26. The remote location makes it more difficult to ship and receive, invite vendors and customers, and have a visible presence to others in the sector. This said, Forest Grove has been home to high tech and advanced manufacturing businesses in the past, and may remain a good fit for some mid-sized firms.

TRANSPORTATION SYSTEM

This section summarizes existing and projected future transportation and traffic conditions in the vicinity of the study area. This baseline conditions analysis will be used to guide planning for future multimodal transportation facilities within the study area, and to assess potential transportation implications of development in this area on the larger multimodal system. The full technical report is included in Attachment 1.

Street and Road Conditions

Functional Classification

The functional classification system is designed to serve a variety of transportation needs within the community ranging from short local trips to longer distance regional trips. The existing functional classification of streets in the study area is summarized in Table 5. Any street not designated as either an arterial, collector, or neighborhood route is considered a local street. Some Washington County roadway classifications differ from those identified by the City of Forest Grove. Metro typically classifies roads that are considered to be of regional significance.

Table 5. Major Street Network Classifications

	Functional Classification			
Street	**Forest Grove**	**Washington County**	**Metro**	**Lanes**
Highway 47 (Nehalem Hwy/Quince Street)	Principal Arterial	Principal Arterial	Throughway	2
Martin Road	Arterial	Arterial	Arterial (outside UGB)	2
Pacific Avenue (vicinity of Quince Street)	Arterial	Arterial	Throughway/ Minor Arterial	4
Oak Street (north of Pacific)	Collector	Collector	NA	2
Sunset Drive	Collector	Collector	NA	2
22nd Avenue	Collector	Collector	NA	2
23rd Avenue	Collector	Collector	NA	2
24th Avenue	Collector	Collector	NA	2
26th Avenue	Collector	Collector	NA	2
Hawthorne Street	Collector	Collector	NA	2
Maple Street	Local	NA	NA	2
Porter Road	NA	NA	NA	2

Street Jurisdiction

Roadway ownership and maintenance responsibilities of the various roads throughout the study area are identified in Table 6. Highway 47 is a state highway and under ODOT jurisdiction. Martin Road, 24th Avenue, and Porter Road are under the jurisdiction of Washington County. The remaining roadways are under the jurisdiction of the City of Forest Grove.

Table 6. Major Street Network Classifications

Street	Current Jurisdiction
Highway 47 (Nehalem Hwy/Quince Street)	Oregon Dept. of Transportation
Martin Road	Washington County
Pacific Avenue	Forest Grove
Oak Street	Forest Grove
Sunset Drive	Forest Grove
22nd Avenue	Forest Grove
23rd Avenue	Forest Grove
24th Avenue	Washington County
26th Avenue	Forest Grove
Hawthorne Street	Forest Grove
Porter Road	Washington County

Source: Forest Grove TSP, 2014.

Roadway Design

Table 7 summarizes key roadway design features that are pertinent to the layout of a system of study area collector streets. This guidance is based on the Forest Grove Development Code. As noted in the table, sidewalks would be required on both sides of all streets within the study area. Bike lanes and/or multi-use pathways were identified for those streets included for bikeway development in the City's TSP. Minimum street right of way and paved widths are identified by functional classification.

Table 7. Design Parameters for Major Study Area Streets

Street	Classification	Lane Width	Parking	Bike Lanes	Sidewalks	Landscape Strip	Min. ROW	Min. Paved Width
Oak Street	Collector	10-12 ft	5-8 ft	5-6 ft	5-7 ft	0-8 ft	66 ft	40 ft
Laurel Street	Collector	10-12 ft	5-8 ft	5-6 ft	5-7 ft	0-8 ft	66 ft	40 ft
Maple Street	Local	14-16 ft	NA	NA	5 ft	5 ft	50 ft	32 ft
23rd Avenue	Collector	10-12 ft	5-8 ft	5-6 ft	5-7 ft	0-8 ft	66 ft	40 ft
26th Avenue	Collector	10-12 ft	5-8 ft	5-6 ft	5-7 ft	0-8 ft	66 ft	40 ft

Source: Forest Grove Development Code, Section 17.8.610 Streets and 2014 *Transportation System Plan*.

Connectivity

There are a number of locations in the Oak Street Area where, due to the lack of connection points, neighborhood traffic is funneled onto one single street. This type of street network results in out-of-direction travel for motorists and an imbalance of traffic volumes. In addition to motor vehicles, direct connections contribute greatly to accessibility for pedestrians and bicyclists.

By providing connectivity between neighborhoods, out-of-direction travel and vehicle miles traveled (VMT) can be reduced, accessibility between various modes can be enhanced and traffic levels can be balanced out between various streets. The proposed connections in this section are intended to accomplish these objectives. Local connections can reduce potential neighborhood traffic impacts and mitigate capacity deficiencies by better dispersing traffic.

Existing Streets

State Highways serving the project study area include OR 47 and OR 8 (Pacific Avenue/Baseline Road). OR 47 is designated by the City as a Principal Arterial, while OR 8 is designated as an Arterial. Other streets serving the project study area include Pacific and 19th Avenues (City Arterials), north/south collector facilities such as Oak Street, Laurel Street and Hawthorne Street, and east/west collectors such as 23rd and 26th Avenues. Table 8 summarizes key features of the street system that serves the project study area. These features and their implications for development of the transportation system in the project study area are described in the following paragraphs.

Table 8. Summary of Key Features for Existing Streets

			Classification			Mobility	Access
Roadway	**Limits**	**Agency**	**City**	**ODOT**	**Speed**	**Standard**	**Spacing**
OR 47	Pacific to 24th	State	Principal Arterial	District Hwy	25 mph	v/c=0.99	350 ft
OR 47	24th to approx. 500 feet w/o Martin	State	Principal Arterial	District Hwy	40 mph	v/c=0.99	500 ft
OR 47	Approx 500 feet w/o Martin to west of Porter	State	Principal Arterial	Statewide Hwy	40 mph	v/c=0.99	990 feet
OR 47	West of Porter	State	Principal Arterial	Statewide Hwy	50 mph	v/c=0.99	990 feet
OR 8	East of Quince	State	Arterial	Statewide Hwy	40 mph	v/c=0.99	990 feet
Pacific Avenue	West of Quince	Forest Grove	Arterial	NA	35 mph	v/c=0.90[a]	--
19th Avenue	West of Maple	Forest Grove	Arterial	NA	35 mph	v/c=0.90[a]	--
Hawthorne Street	Pacific to 26th	Forest Grove	Collector	NA	25 mph	LOS E[b]	--
Oak Street	Pacific to OR 47	Forest Grove	Collector	NA	25 mph	LOS E[b]	--
Laurel Street	North of Pacific	Forest Grove	Collector	NA	25 mph	LOS E[b]	--
Maple Street	North of Pacific	Forest Grove	Local	NA	25 mph	LOS E[b]	--
23rd Avenue	Sunset to Hawthorne	Forest Grove	Collector	NA	25 mph	LOS E[b]	--
26th Avenue	Sunset to Juniper	Forest Grove	Collector	NA	25 mph	LOS E[b]	--

a Recommended for signalized intersections in Forest Grove TSP.
b Recommended for unsignalized intersections in Forest Grove TSP.

Oregon Highway 47
OR Highway 47 is a two-lane Principal Arterial that passes along the eastern edge of the study area, running north/south from its intersection with Pacific Avenue and then turning to the northwest along the northern edge of the study area through the intersection with Sunset Drive and beyond. From Pacific Avenue to approximately 500 feet west of Martin Road, OR 47 is designated by ODOT as a District Highway. Between Pacific Avenue and 24th Avenue, OR 47 is known as Quince Street and is signed for 25 mph speeds. It has a required access spacing of 350 feet.

From 24th Avenue to approximately 500 feet west of Martin Road, OR 47 is signed for 40 mph speeds and has a required access spacing of 500 feet. This District Highway designation would allow development of enhanced street connectivity to the state highway such as the proposed extension of Martin Road through the study area from the existing intersection on OR 47 as discussed in the City's TSP. OR 47 crosses the railroad tracks just to the south of 24th Avenue. This crossing includes reinforced pavement with crossing gates with warning bells and flashers.

Northwest of the intersection of OR 47 with Martin Road, the highway designation changes to Statewide Highway with speed limits ranging from 40 mph to 50 mph. Access spacing requirements increase to 990 or 1,100 feet, respectively, for these two speed zones. This designation offers fewer opportunities for added street intersections serving the focus study area.

There are currently bicycle lanes and sidewalks on OR 47 between Pacific Avenue and the railroad tracks. From the railroad crossing to beyond Sunset Drive there is a multi-use path along the west and south sides of OR 47 as well as bicycle lanes or wide shoulders. There is also a sidewalk along the east side of OR 47 as far north as the Martin Road intersection. There is a center turn lane between Pacific Avenue and the railroad tracks and left turn channelization in a highway median from 24th Avenue to beyond Sunset Drive.

Oregon Highway 8
OR 8 (Pacific Avenue) serves the project study area by connecting the City of Forest Grove to Cornelius, Hillsboro, and other destinations to the east. The state highway designation terminates at the intersection with OR 47 (Pacific Avenue). OR 8 is designated by the City as an Arterial and by ODOT as a Statewide Highway. Pacific Ave/OR 8 travels through the study area as a four-lane arterial with center left turn lane, bike lanes and wide shoulders before splitting into a one-way couplet with 19th Avenue at Maple Street. The existing speed limit approaching Quince Street (OR 47) is 40 mph with a required access spacing of 990 feet.

Martin Road
Martin Road is a two-lane rural road under the jurisdiction of Washington County. The road has minimal shoulders and operates at 50 mph with frequent driveways in many locations. Martin Road provides access to the City of Forest Grove from its surrounding agricultural area including Verboort and ultimately links the community to US 26 which accesses other destinations in Washington County and the City of Portland. Washington County is currently conducting design for improvements along Martin Road to widen and improve existing pavement including bicycle lanes between Verboort Road and OR 47. The existing stop-controlled intersection with OR 47 will be rebuilt to provide a single lane roundabout. According to information on the Washington County website, this new roundabout is expected to be complete by the fall of 2022.

The City's TSP recommends the future extension of Martin Road to the southwest of OR 47 to provide access to the Oak Street plan area, ultimately connecting to 23rd Avenue.

Collector Roadways
The remaining streets in the study area are maintained by the City of Forest Grove and, with the exception of Maple Street, are classified as collector routes. Maple Street north of Pacific Avenue is classified as a local road. All the local and collector streets included in Table 4-6 have two travel lanes, no bicycle lanes, and sidewalks in many locations although the system is incomplete. These streets have a posted speed limit of 25 mph.

Traffic Speed
Speed zones on arterials and collectors within the City of Forest Grove are summarized in Table 7. There are three ways a speed zone can be established by statute. One is in a "residence district", another is a "business district" and the third is a school zone.[2] A residence district can be posted at 25 mph. A business district and a school zone can be posted at 20 mph. In all other cases, an engineering study is required to determine the appropriate speed zone (the basis is the 85th percentile speed).[3] Vehicle speeds on several collector and residential streets are a concern for the community. In most cases, speeding becomes very noticeable when it is above 30-35 miles per hour. Speeding typically occurs on local streets where the streets are wide and straight for long stretches, or where downhill grades are extended.

Intersection Control
Two of the intersections in the study area are currently traffic signal-controlled – OR 47/Quince Street with Pacific Avenue and OR 47 with Sunset Drive. The intersections of OR 47 with Oak/Porter Street and Martin Road are controlled by two-way stop signs on the side streets. The intersection of OR 47 with Martin Road is currently in design for construction of a single lane roundabout which is expected to be complete by the fall of 2022.

Existing Traffic Volumes and Performance
Section 4.5 of Attachment 1 presents existing PM peak hourly traffic volumes at key study area intersections, and Traffic count data and adjustments are presented in Appendix A. While analysis of traffic flows and functional classifications are useful in understanding the general nature of traffic in an area, traffic volumes alone indicate neither the ability of the street network to carry additional traffic, nor the quality of service afforded by the street facilities. For this, the concept of level of service has been developed to correlate traffic volume data to subjective descriptions of traffic performance at intersections, and specific mobility targets have been identified that determine when performance is acceptable or not.

Mobility standards for ODOT, Washington County and the City of Forest Grove apply to roadways under their jurisdiction. ODOT defines a maximum volume-to-capacity ratio for Highway 47 of 0.99[4]. Washington County defines acceptable performance in urban areas as volume-to-capacity (v/c) ratio

[2] Speed zones can be established by statute which is vaguely defined in the Oregon Vehicle Code in 801.430.
[3] The 85th percentile vehicle speed represents a condition when 15 percent of the vehicles surveyed were traveling faster than the 85th percentile speed and 85 percent were traveling slower than the 85th percentile speed.
[4] *Oregon Highway Plan, Policy Element*, Table 7, Oregon Department of Transportation, 1999.

of 0.99 with LOS E or better[5] in the highest peak hour with v/c of 0.90 or LOS D in the second highest hour. The City of Forest Grove uses a v/c ratio of 0.90 for signalized intersections and LOS E for the stop-controlled movement at unsignalized intersections. Table 9 provides a summary of PM peak hour levels of service at the four intersections selected for analysis as part of the Oak Street Refinement Plan.

Table 9. Existing 2020 PM Peak Hour Intersection Level of Service

Intersection	Mobility Target	Level of Service (LOS)	Average Delay (Seconds)	Volume / Capacity (V/C)
Unsignalized Intersections				
OR Highway 47 @ Oak Street	V/C=0.99	D	27.1	0.31
OR Highway 47 @ Martin Road	V/C=0.99	**F**	**127.3**	**1.13**
Signalized Intersection				
OR Highway 47 @ Sunset Drive	V/C=0.99	C	32.5	0.43
OR Highway 47 @ Pacific Avenue	V/C=0.99	D	47.6	0.90

Note: Performance results for the unsignalized intersections represent the worst movement.
Bold text indicates location and year when mobility target is expected to be exceeded.
Source: SCJ Alliance, 2020

As noted in the table, all study area intersections are currently operating at better than their mobility targets with the exception of OR 47 at Martin Road. This intersection currently exceeds its mobility target of 0.99. To address this problem location, Washington County is currently designing improvements for single lane roundabout traffic control which is scheduled to open in 2022. Operations with this improvement are expected to be substantially better than the mobility target. Operations analysis worksheets for the 2020 PM peak hour are included in Appendix B of Attachment 1.

Traffic Safety

Crash data was obtained for the study intersections from Oregon Department of Transportation for the period between January 1, 2014 and December 31, 2018 (the most recently available data). This data has been analyzed and the results are depicted in the following four tables for study area intersections and the segment of OR 47 between Sunset Drive and Pacific Avenue as a whole. Review of data included identification of the total number of crashes, crashes by type and severity and crash rates. Crash data is included in Appendix C of Attachment 1.

Table 10 presents a summary of crashes at the four study area intersections, identifies the existing crash rates, and notes the predominate type of crashes that are occurring at each location. Typically, intersections on collector and arterial roadways with a collision rate over 1.00 suggest further safety investigation is warranted. Only the intersection of OR 47 with Martin Road currently exceeds this metric with the predominate crash type being turning movements. However, the pending roundabout improvement at this location should help to resolve this problem and substantially enhance safety at this location.

[5] *Washington County 2035 Transportation System Plan*, Washington County, 2019.

Table 10. Intersection Crashes in Vicinity of Oak Street Plan Area, 2014-2018

Intersection	Total Crashes	Daily Traffic	Annualized Crash Rate	Predominate Crash Type
OR Highway 47 @ Sunset Drive	10	12,250	0.45	Turns
OR Highway 47 @ Oak Street	12	10,500	0.63	Angle
OR Highway 47 @ Martin Road	33	15,075	1.20	Turns
OR Highway 47/Quince Street @ Pacific Avenue	40	41,300	0.53	Rear End

Note: Crash rates are calculated per Million Entering Vehicles at the intersection.
Source: Oregon Department of Transportation (ODOT) crash analysis and reporting unit, 2020.

Table 11 summarizes the severity of existing crashes at the four study area intersections. As indicated in the table, there were no fatal crashes in the study area over the five-year analysis period. A total of 95 crashes were recorded at the study intersections. Fifty-six of the 95 recorded crashes (59 percent) involved injuries, while 39 (41 percent) involved property damage only. It is expected that the number of crashes recorded at the intersection of OR 47 with Martin Road will drop significantly when the roundabout is in place.

Table 11. Summary of Roadway Crashes by Severity, 2014-2018

	Severity of Crash			Total
Road	Fatal	Injury	PDO	Crashes
OR Highway 47 @ Sunset Drive	0	7	3	10
OR Highway 47 @ Oak Street	0	10	2	12
OR Highway 47 @ Martin Road	0	12	21	33
OR Highway 47/Quince Street @ Pacific Avenue	0	27	13	40
Totals	0	56	39	95

Note: PDO means Property Damage Only
Source: ODOT, 2020

Table 12 summarizes crash data by type for three roadway segments along OR 47. As shown in the table, crashes are fairly evenly distributed in each segment although the predominate crash type varies depending on location. Angle and turn crashes are more predominate in the segment between Sunset Drive and Oak Street which are the predominate type of crashes for both the Sunset Drive and Oak Street intersections. Turning crashes predominate in the segment between Oak Street and Martin Road which is consistent with the crash experience at the Martin Road intersection. Rear end crashes predominate between Martin Road and Pacific Avenue which is characteristic of the Pacific Avenue intersection. It should be noted that this data does not include the crashes attributable to the side street approaches at the intersections but only traffic actually on OR 47.

Table 12. Summary of Roadway Crashes by Type, 2014-2018

		Type of Crash						
Road	**Segment**	**Angle**	**Turn**	**Rear End**	**Side-swipe**	**Fixed Object**	**Other**	**Total Crashes**
OR Highway 47	Sunset Drive to Oak Street	11	7	3	1	4	2	28
OR Highway 47	Oak Street to Martin Road	1	26	2	1	1	0	31
OR Highway 47	Martin Road to Pacific Avenue	0	9	20	0	0	2	31

Source: ODOT, 2020

Table 13 presents a summary of roadway segment crashes by severity. As indicated in the table, there were no fatal crashes along OR 47 during the five-year period included in the data. Crashes along OR 47 were split between those involving injuries and those resulting only in property damage (a total of 52 injury crashes (58 percent) versus 38 PDO crashes (42 percent).

Table 13. Summary of Roadway Crashes by Severity, 2014-2018

		Severity of Crash			Total
Road	**Segment**	**Fatal**	**Injury**	**PDO**	**Crashes**
OR Highway 47	Sunset Drive to Oak Street	0	21	7	28
OR Highway 47	Oak Street to Martin Road	0	12	19	31
OR Highway 47	Martin Road to Roy Pacific Avenue	0	19	12	31

Note: PDO means Property Damage Only
Source: ODOT, 2020

Table 14 presents a summary of crash data for the entire OR 47 corridor from Sunset Drive to Pacific Avenue and calculates an overall crash rate of 2.9 crashes per million vehicle miles of travel.

Table 14. Summary of Roadway Crashes by Severity, 2014-2018

East/West Roadway	North/South Roadway	Reported Crashes	Distance	ADT	Crash Rate (per MVMT)
OR Highway 47	Sunset Drive to Pacific Ave	90	1.69 miles	10,050	2.90

Note: MVMT means Million Vehicle Miles of Travel
Source: ODOT, 2020

Future Street and Roadway System

This section addresses future traffic volume forecasts, deficiencies and improvement requirements resulting from future community growth to 2040, and key transportation improvement projects included in the City's TSP that are relevant to the Oak Street plan area. More detailed information is found in Section 7 of Attachment 1.

Future (2040) Traffic Volumes

Table 15 shows that all intersections are projected to operate within their identified mobility targets. The intersection of OR 47 with Martin Road was assumed to operate as a roundabout, which is expected to be constructed in 2022.

Table 15. Existing 2040 PM Peak Hour Intersection Level of Service

Intersection	Mobility Target	Level of Service (LOS)	Average Delay (Seconds)	Volume / Capacity (V/C)
*Unsignalized Intersections****				
OR Highway 47 @ Oak Street	V/C=0.99	D	26.8	0.31
Signalized Intersection				
OR Highway 47 @ Sunset Drive	V/C=0.99	C	33.8	0.52
OR Highway 47 @ Pacific Avenue	V/C=0.99	E	55.0	0.95
Roundabout Intersection				
OR Highway 47 @ Martin Road	V/C=0.99	B	12.2	0.82

Note: Performance results for the unsignalized intersections represent the worst movement.
Bold text indicates location and year when mobility target is expected to be exceeded.
Source: SCJ Alliance, 2020

As noted in Project #10780, which is included in Metro's 2018 *Regional Transportation Plan*, the intersection of OR 47 with Pacific Avenue is expected to be improved in approximately 2028 by the addition of a second westbound left turn lane and an eastbound right turn lane. The added left turn lane will require installation of a receiving lane on OR 47 for sufficient distance south of the intersection to accommodate merging traffic continuing southbound on the state highway. With the addition of this improvement, intersection operations at OR 47/Pacific Avenue are expected to operate at Level of Service D with 46.2 seconds of average delay and a V/C ratio of 0.89.

Planned Street Improvements

The City of Forest Grove's *Transportation System Plan* includes several roadway improvement projects that would benefit the Oak Street Area. The conceptual collector street network for the area is shown in Figure 19 below and outlined in Table 16.

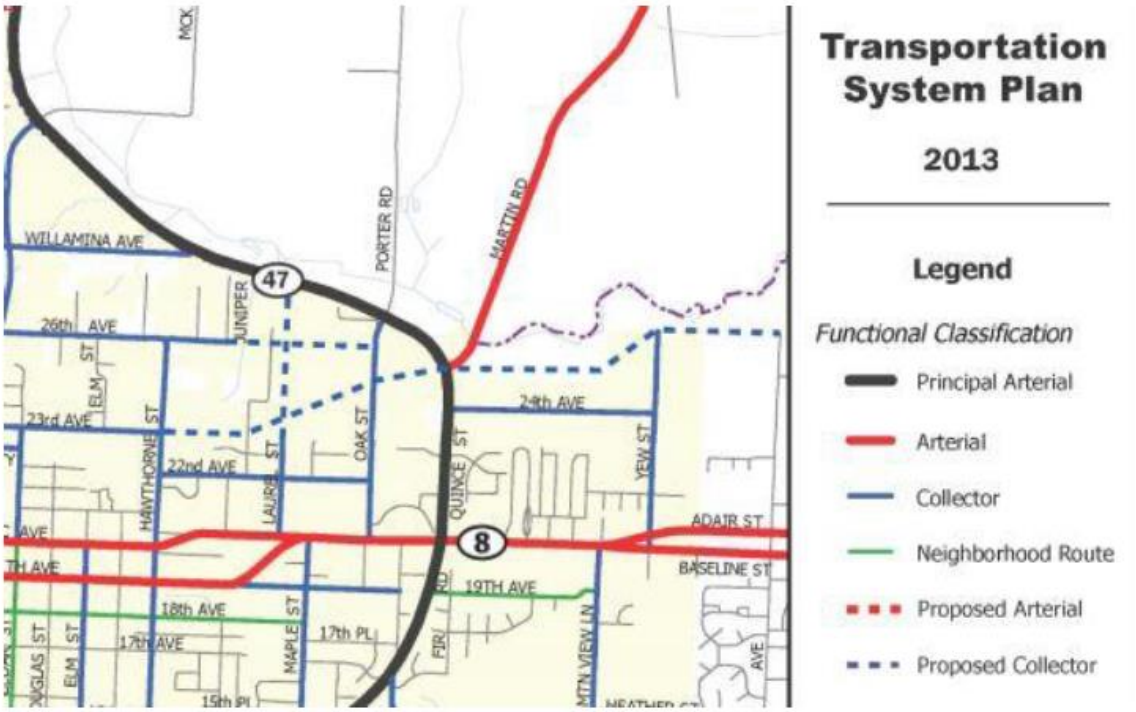


Figure 19. TSP Conceptual Collector Roadway Network, TSP, 2013

Table 16. Planned Roadway Improvements

Description/ Location	Project/Limits	Jurisdiction
23rd Avenue Extension	Construct new 2-lane collector without median and with bike lanes from Hawthorne Avenue east to Highway 47	ODOT/Forest Grove
Holladay Street Extension (West)	Construct new 2-lane industrial collector from City Limit to Martin Road/Highway 47 intersection	Forest Grove
Hawthorne Street Extension	Construct 2-lane collector between Willamina Street and 26th Ave	Forest Grove
Highway 8 / Pacific Avenue / 19th Avenue Improvements	Retrofit street with boulevard design from Highway 47 to B Street. Includes intersection improvements at Yew/Adair/19th	ODOT/ Forest Grove
25th Avenue	Construct 2-lane local roadway between Cedar and Hawthorne Streets	Forest Grove
Laurel Street Extension	Construct 2-lane collector between northern terminus of Laurel Street and just south of Hwy 47. Will require railroad crossing.	Forest Grove
26th Avenue Extension	Construct 2-lane collector between Boyd Lane and Oak Street	Forest Grove

Source: *Transportation System Plan*, City of Forest Grove, 2014.

Because of its significance to street layout in the Oak Street plan area, Figure 20 has been included in this report to illustrate the proposed OR 47/Martin Road roundabout. It is anticipated that the 23rd Avenue Extension identified in Table 5 would connect to this roundabout on its west side to form a complete four-legged intersection.

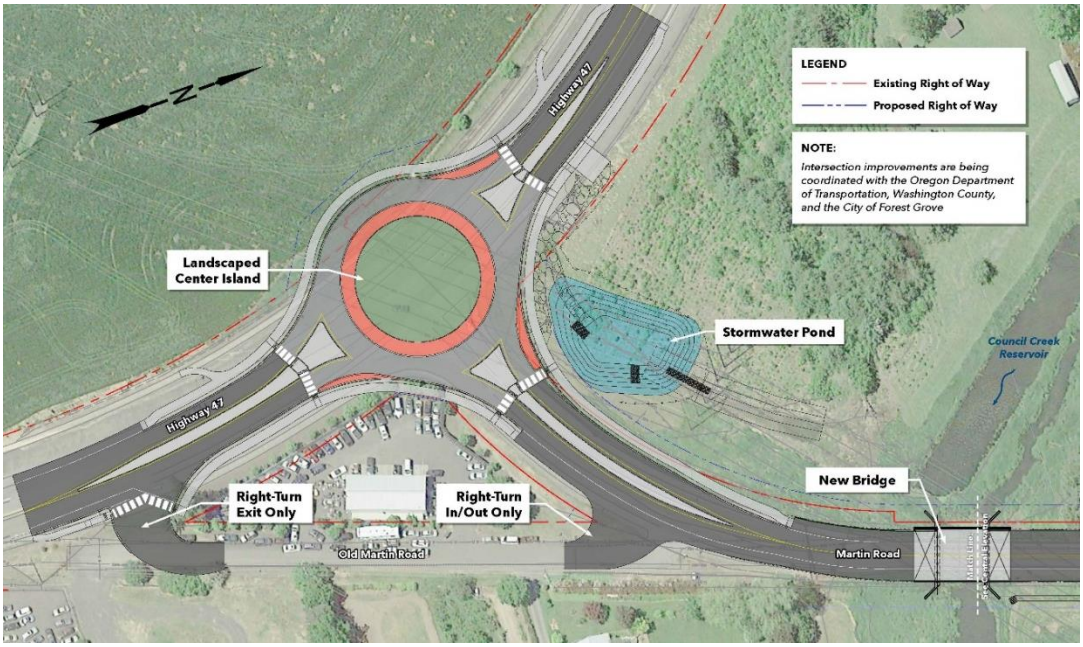


Figure 20. OR 47 at Martin Road – Proposed Roundabout Improvement

Bicycle Facility Conditions

Existing Bicycle Facilities

The Oregon Transportation Planning Rule requires adequate bicycle facilities on all arterials and major collectors in the state. A general inventory of the bike lane network within the City was conducted for the City's 2014 TSP. This system is illustrated in Figure 21 which was excerpted from the TSP.

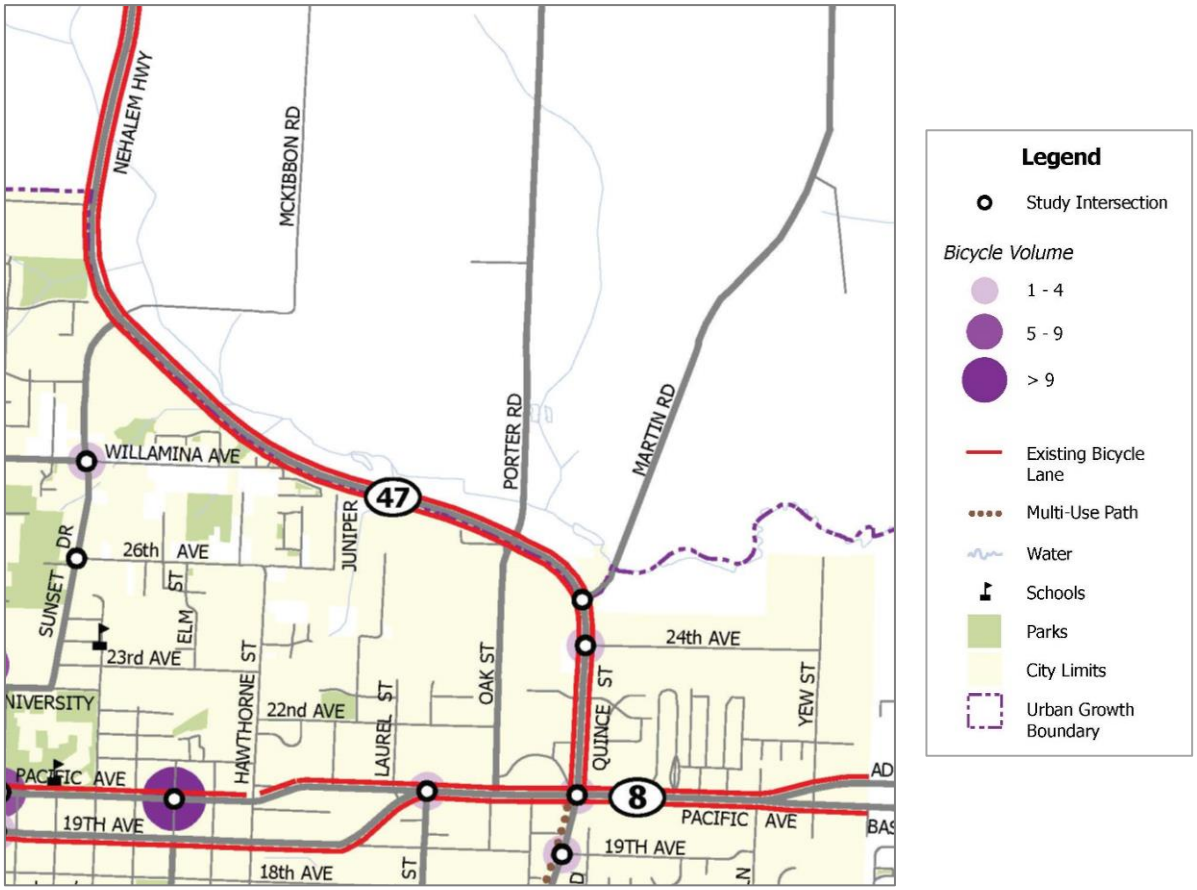


Figure 21. Existing Bicycle Facilities, 2014

The arterial and collector roadway system within the vicinity of the Oak Street plan area has fairly continuous bicycle facilities. Key features of the existing bicycle circulation system that are relevant to the Oak Street plan area include:

- Bicycle lanes and/or wide shoulders are provided along OR 47 through the study area.
- Bicycle lanes also exist along both sides of Pacific and 19th Avenues except for the segment on the south side of Pacific Avenue between Oak and Quince Streets.
- Gaps in the existing bicycle system include all collector streets in the study area.
- Protected crossing locations along arterial streets exist in only a few locations. Along OR 47, the only existing signalized pedestrian crossings are at Pacific Avenue and Sunset Drive, a separation of approximately 1.7 miles. With only two protected crossing locations in the study area, a significant barrier-effect exists for pedestrian and bicycle traffic attempting to cross the highway. The pending roundabout improvement at the intersection of OR 47 at Martin Road will offer an addition crossing when this project is completed in 2022. However, it should be noted that both the Tualatin Valley Scenic Bikeway and the Council Creek Regional Trail Plan both call for a trail crossing of OR 47 at Oak Street which is currently unprotected.

Key destinations for the active bicycle and pedestrian transportation systems within and near the study area include various schools, parks, and employment/retail commercial centers located within

reasonable proximity. The Oak Street plan area is also the focus of a significant regional trail system which maximizes proximity to Council Creek and the scenic Tualatin Valley.

Existing Trails/Bikeways

The primary bikeway of significance to the Oak Street plan area is the Tualatin Valley Scenic Bikeway (TVSB). Illustrated in Figure 22, the Oregon State Parks designated trail uses largely existing country roads in the Tualatin Valley for recreational travel between the south side of Hillsboro and Banks with a connection to the Banks-Vernonia State Trail. Through the City of Forest Grove, the TVSB enters town on Porter Road with an at-grade crossing of OR 47 directly onto Oak Street. The trail continues down Oak Street, crosses the railroad tracks, and then turns onto 22nd Avenue to reach other destinations in the City. The TVSB leaves town on Maple Street where it crosses OR 47 and continues into the rural valley.

Planning Context

Planning for development of a bicycle circulation system in and adjacent to the Oak Street plan area is guided by several documents including the *Forest Grove Transportation System Plan*, the *Washington County TSP* and Road Standards, and the *Council Creek Regional Trail Plan*.

Forest Grove Transportation System Plan – The TSP provides policy guidance on the development of the City's bicycle circulation system and identifies a specific list of improvements to enhance that system. The goal of the TSP is to fill gaps and develop a more complete bicycling network. That system would include an expanded bike lane network on streets where bicyclists could benefit from delineated separation from motorists, while shoulder bikeways (serving bicyclists and pedestrians) are identified on several roadways at the urban/rural fringe. The TSP Bicycle Plan is illustrated in Figure 23. As noted in the figure, the extension of Martin Road into the Oak Street planning area is proposed to have bicycle lanes as is Hawthorne Street to the west of the planning area.

Washington County TSP – The Washington County TSP provides guidance on the development of a comprehensive bicycle system along major corridors in the county. In the Forest Grove area, the TSP provides the basis for the pending improvements along Martin Road that would add 10-foot shoulders to accommodate bicycle travel. The TSP also identifies the Council Creek Regional Trail project connecting Banks, Forest Grove and Hillsboro for which a refinement plan has been prepared and phased construction scheduled.

Council Creek Regional Trail Plan – This plan evaluated a series of alignment options for a trail connection linking Banks, Forest Grove and Hillsboro and identified a preferred concept. The proposed trail alignment through Forest Grove is presented in Figure 24. Figure 25 illustrates selected cross-sections that are pertinent to the Oak Street plan area and includes several photos in the vicinity of the future trail.

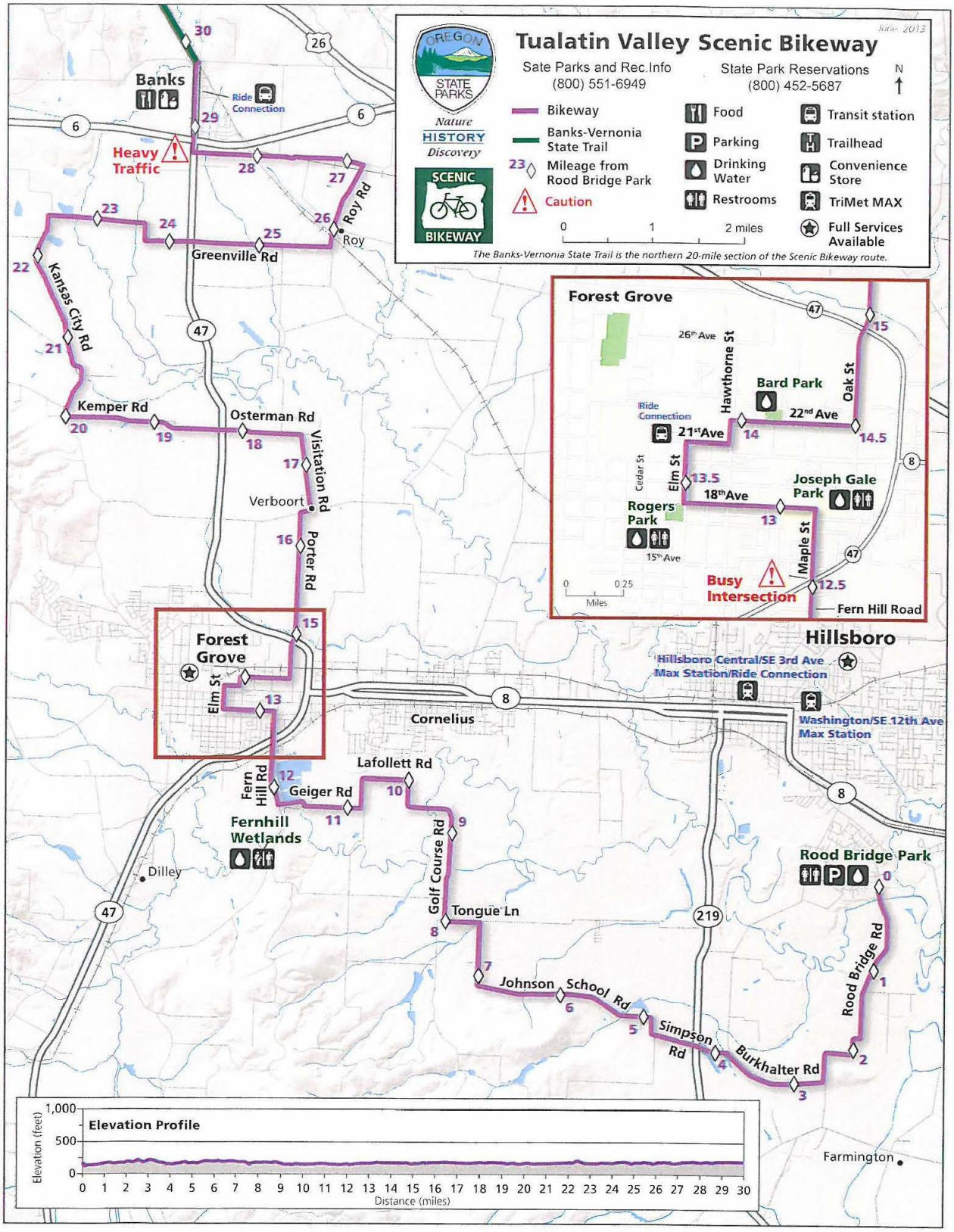


Figure 22. Tualatin Valley Scenic Bikeway

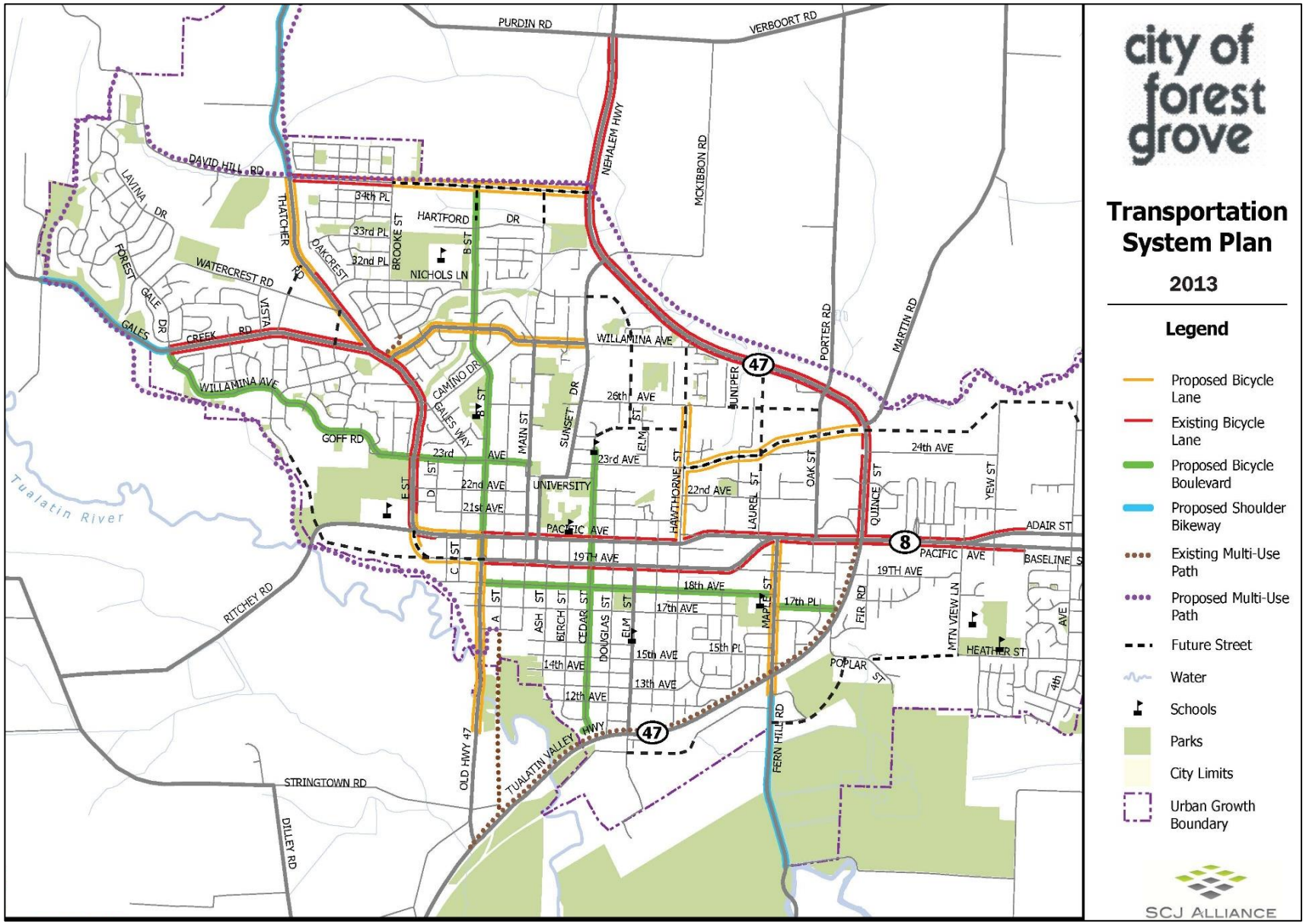


Figure 23. Forest Grove Bicycle Plan

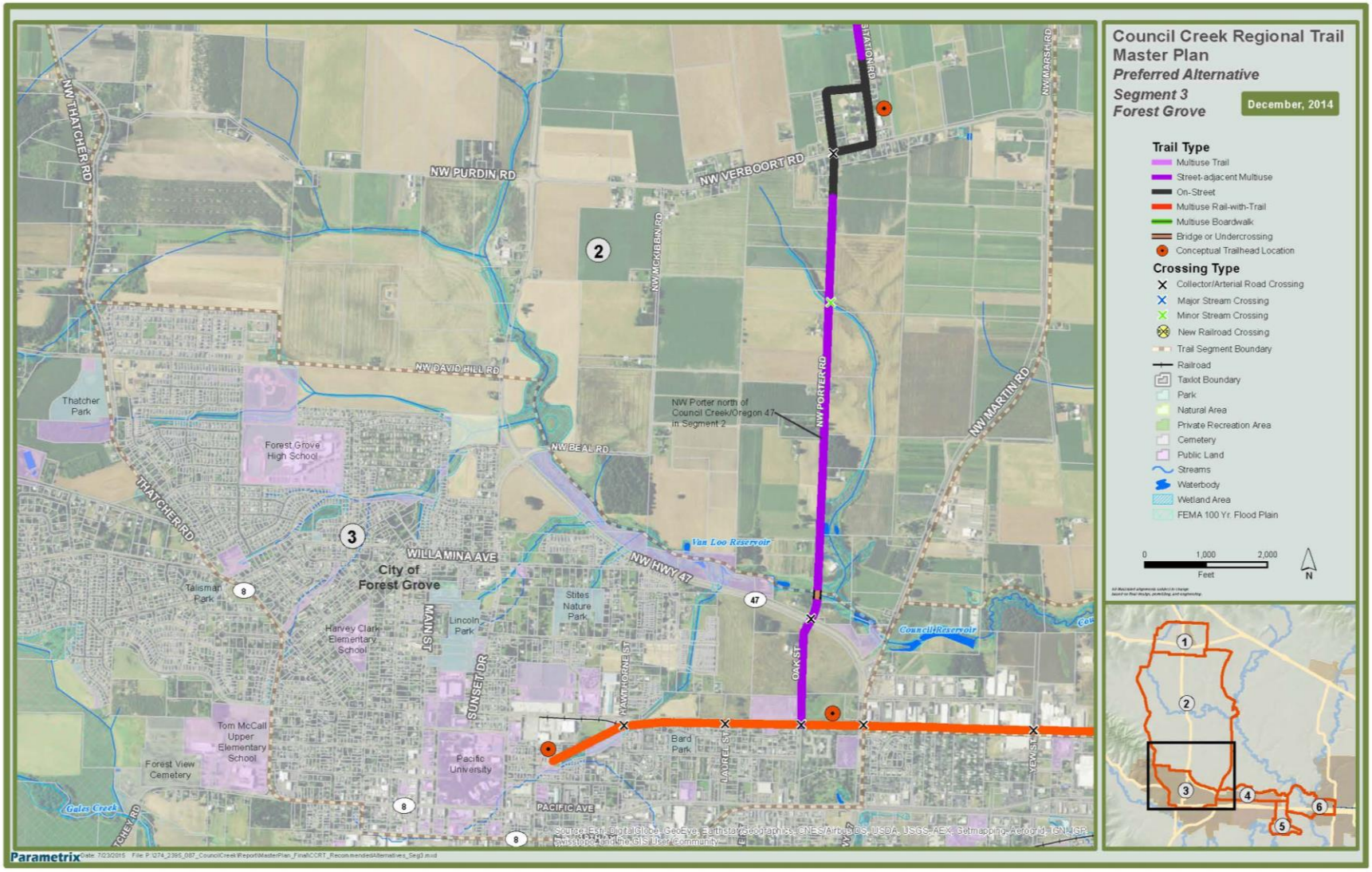
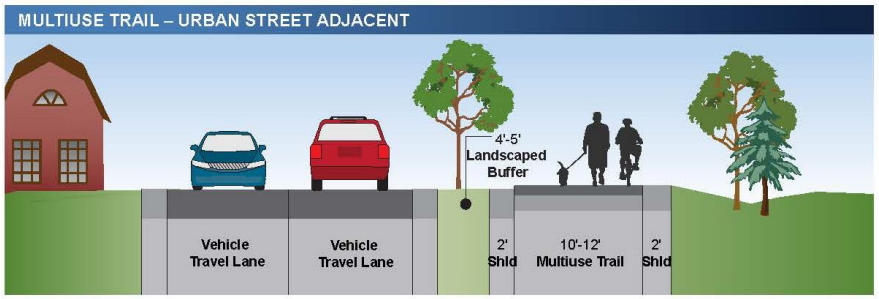


Figure 24. Council Creek Trail Plan



Oak Street/Oregon 47/Porter Road

Rail corridor near BPA substation

Rail corridor near Hawthorne Street

Figure 25. Council Creek Trail Design Elements

Bicycle System Improvements

Table 17 lists bicycle improvement projects in the vicinity of the Oak Street plan area that were excerpted from the TSP. The table identifies projects specifically focusing on bicycle facilities, while the roadway improvement chapter identifies street system improvements (e.g., new street corridors) that would also include bike lanes or wide shoulders. Projects that would include joint bicycle/pedestrian improvements (e.g., shared use paths or street improvement projects that would include bike lanes and sidewalks), are listed later in this chapter under the discussion of pedestrian facilities.

Table 17. Bicycle System Projects and Programs

Project	Segment	Description
Hawthorne Street	26th Avenue to Pacific Avenue	Re-stripe roadway to provide bike lanes
Willamina Avenue	Thatcher Road to Sunset Drive	Re-stripe roadway to provide bike lanes
Cedar Street	OR 47 Path to 24th Avenue	Develop Bicycle Boulevard
Council Creek Regional Trail	Three	Construct Council Creek Trail through Forest Grove consistent with the Council Creek Reginal Trail Master Plan (August 2015)

Pedestrian Facility Conditions

Existing Pedestrian Facilities

The Oregon Transportation Planning Rule requires adequate pedestrian facilities on all arterials and major collectors in the state. A general inventory of the sidewalk and bike lane network within the project study area was conducted for the City's 2014 TSP and key features include:

- Provision of sidewalks on both sides of OR 47 north of Pacific Avenue to the railroad track and continuing along the east side of the highway to Martin Road. On the westside of Martin Road is a multi-use path that continues through the study area.
- Provision of sidewalks along both sides of Pacific and 19th Avenues
- Provision of sidewalks on both sides of Oak Street from Pacific Avenue to just north of 22nd Avenue, along both sides of 22nd Avenue between Oak and Hawthorne Streets, along the north side of 23rd Avenue west of Hawthorne Street, and along portions of Hawthorne Street south of 22nd Avenue.
- Gaps in the existing sidewalk system in the project study area include along the south side of 23rd Avenue, portions of Hawthorne Street northward from approximately 200 feet north of Pacific Avenue on the east side and 600 feet north of Pacific Avenue on the west side, and along the entire length of 26th Avenue.
- Protected crossing locations along arterial streets existing in only a few locations. Along OR 47, the only existing signalized pedestrian crossings are at Pacific Avenue and Sunset Drive, a separation of approximately 1.7 miles. With only two protected crossing locations in the study area, a significant barrier-effect existing for pedestrian and bicycle traffic attempting to cross the highway. The pending roundabout improvement at the intersection of OR 47 at Martin Road will offer an addition crossing when this project is completed in 2022. However, it should be noted that both the Tualatin Valley Scenic Bikeway and the Council Creek Regional Trail Plan both call for a trail crossing of OR 47 at Oak Street which is currently unprotected.

Figure 26 illustrates the existing sidewalks and shoulders within the area.

Figure 26. Existing Sidewalks/Highway Shoulders

Planning Context

Planning for development of a pedestrian circulation system in and adjacent to the Oak Street plan area is guided by several documents including the Forest Grove *Transportation System Plan* and the *Council Creek Regional Trail Master Plan* (Metro).

Forest Grove Transportation System Plan – The TSP provides policy guidance on the development of the City's pedestrian circulation system and identifies a specific list of improvements to enhance that system. The goal of the TSP is to fill gaps and develop a more complete walking network including both sidewalks and trails. The TSP Pedestrian Plan is illustrated in Figure 26. As noted in the figure, the extension of Martin Road into the Oak Street plan area is proposed to have sidewalks, as is Hawthorne Street to the west of the planning area and Laurel Street and 26th Avenue within the Oak Street plan area.

Council Creek Regional Trail Plan – This plan evaluated a series of alignment options for a trail connection linking Banks, Forest Grove and Hillsboro and identified a preferred concept. The proposed trail alignment through Forest Grove is presented in Figure 24. Figure 25 illustrates selected cross-sections that are pertinent to the Oak Street plan area and includes several photos in the vicinity of the future trail.

Pedestrian System Improvements

The pedestrian network builds upon Forest Grove's existing system of sidewalks, shared use paths, neighborhood accessways and other pedestrian infrastructure currently in place. Depicted in the TSP's Pedestrian System Plan (Figure 27), projects are intended to enhance pedestrian safety and convenience while making walking a more attractive travel mode. These projects include filling gaps in the sidewalk system, developing an interconnected shared use path network, and targeting specific intersections for pedestrian crossing enhancements.

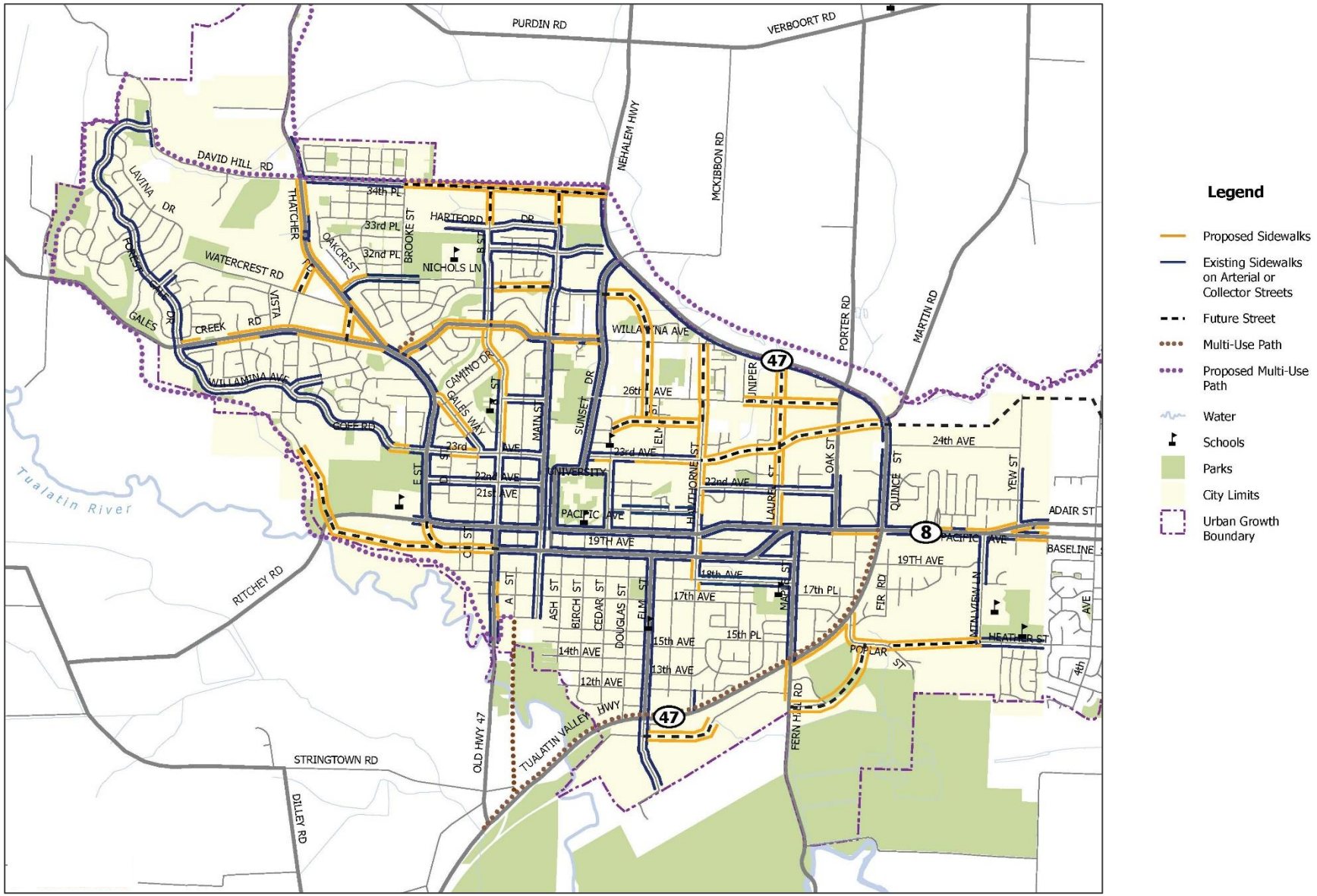


Figure 27. Forest Grove Pedestrian Plan

Table 18 lists pedestrian improvement projects in the vicinity of the Oak Street plan area that were excerpted from the TSP. The table identifies projects specifically focusing on sidewalks, while the roadway improvement table (Table 5) identifies street system improvements (e.g., new street corridors) that would also include sidewalks or wide shoulders. Projects that would include joint bicycle/pedestrian improvements (e.g., shared use paths or street improvement projects that would include bike lanes and sidewalks), are listed earlier under the discussion of bicycle facilities.

Table 18. Pedestrian System Projects and Programs

Project	Segment	Description
Highway 8/Pacific Avenue	Oak Street to Mountain View Lane	Complete sidewalk gaps
Willamina Avenue[3]	Gales Creek Road to Sunset Drive	Complete sidewalk gaps
Highway 8/Baseline Street	Mountain View Lane to east city limits	Complete sidewalk gaps
Highway 8/Adair Street	Mountain View Lane to east city limits	Complete sidewalk gaps
21st Avenue	Cedar St. to Douglas Street	Complete sidewalk gaps
23rd Avenue[3]	Cedar Street to Sunset Drive	Complete sidewalk gaps
Hawthorne Street	12th Avenue to 26h Avenue	Complete sidewalk gaps
Laurel Street	22nd Avenue to Pacific Avenue	Complete sidewalk gaps
Highway 8	Mountain View Lane to Highway 47	Pedestrian Crossing (potentially at location of new traffic signal)
Council Creek Regional Trail	Three	Construct Council Creek Trail through Forest Grove consistent with the Council Creek Reginal Trail Master Plan (August 2015)
Hawthorne Street	12th Avenue to 26h Avenue	Complete sidewalk gaps

Transit Conditions

The following describes the availability of existing transit service in the general vicinity of the Oak Street plan area:

TriMet currently serves Forest Grove by a single fixed-route TriMet bus line, 57-TV Highway/Forest Grove. The transit line is the principal bus corridor in Washington County, providing frequent service (every 15 minutes or better) every day between Downtown Forest Grove, Cornelius, Hillsboro, Aloha and Beaverton with MAX light rail connections provided at Hillsboro Central and Beaverton Transit Center stations. Westbound bus stops in the project study area, from east to west, are located at Quince Street (Highway 47), Oak Street, Maple Street, 2900 Block of Pacific Avenue, Hawthorne Street, Elm Street, and Cedar Street. Eastbound bus stops in the project study area, from west to east, are at Cedar Street, Elm Street, Hawthorne Street, 19th Ave/19th Way, Maple Street, and Quince Street (Highway 47). No transit service currently exists in the focus study area. The boundary of the focus study area is approximately 1,300 feet or more from the nearest bus stops on Pacific Avenue, a distance that is close to the one-quarter mile walking distance that is normally considered to be the maximum acceptable walking distance to transit.

Ride Connection is a non-profit umbrella organization dedicated to providing transportation service in areas and for persons not adequately served by fixed route buses. Ride Connection service is designed

primarily for people over the age of 60 and for people with disabilities, although service is available for the general public when traveling in areas not served by public transportation. Ride Connection provides a variety of program options, and most services are available Monday through Friday although hours, availability, and days of service will vary. Service is client-initiated through a phone call or an online request with an advance reservation requirement of four days. Office hours are Monday through Friday between the hours of 7:30 am and 5:00 pm. Service is provided at no charge, although donations are accepted. Two of the key service options serving Forest Grove are GroveLink and WestLink

GroveLink operates public transportation service for the Forest Grove community, building on and expanding the regional services provided by TriMet with Route 57 and Ride Connection's WestLink intercity service.

WestLink is a service of Ride Connection, and a free public transit service for people traveling between Forest Grove, North Plains, Banks and the Hillsboro Transit Center. WestLink does not directly serve the Oak Street plan area, requiring nearly a mile walk from the center of the Plan area to the nearest stop at the Forest Grove Senior Center on Douglas Street

In June 2010, the Portland Metropolitan region adopted the 2035 Regional Transportation Plan that included policy guidance for developing high capacity transit (HCT) system expansion which includes Corridor 12 – Hillsboro to Forest Grove Extension. The Washington County TSP identifies HCT Corridor 12 as a "Developing Regional Priority Corridor" where land uses projected to be in place by 2035 and their "*commensurate ridership potential are not expected to be supportive of HCT implementation, but which have long-term potential due to political aspirations to create HCT-supportive built form*".

A transit-oriented development planning project was conducted for the Oak Street plan area. The development of densities sufficient to ultimately warrant extension of HCT to Forest Grove was a major consideration. While extension of HCT along the PNWR corridor may become a long-term vision, and some elements of that work may be pertinent in this project, there are currently no plans to proceed with this effort.

Rail Conditions

As noted earlier in this report, the southern edge of the project area is bordered by an existing east/west rail corridor, the Portland & Western Railroad. Active rail operations along the corridor have ceased but the rail line has not been formally abandoned. The rail corridor right-of-way is owned by the Oregon Department of Transportation (ODOT). There are currently three crossings of the rail line in the study vicinity, including OR 47, Oak Street and Maple Street. Only the OR 47 crossing is fully improved. ODOT controls the spacing of crossings on the rail line as well as intersection spacing on Hwy 47. The railroad is a major barrier and will limit development opportunity.

The rail corridor right-of-way has been identified as the preferred alignment for the Council Creek Regional Trail. Additionally, an earlier study of the project site for transit-oriented development considered this corridor for future expansion of High Capacity Transit between Hillsboro and Forest Grove.

NEXT STEPS

The draft Existing Conditions Report will be made available to the public and key findings will be presented to the Technical Advisory Committee in September 2020. The Report will be used, along with a stakeholder and community outreach efforts, to identify opportunities, needs and challenges for future development types on the site. These opportunities and constraints will serve as the basis of developing Oak Street Area Land Use Refinement Plan alternatives.